Online Appendix to: The Power of Alternative Kolmogorov-Smirnov Tests Based on Transformations of the Data

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A. OVERVIEW

In this appendix, we present supporting materials complementing the main paper. In §B, we present detailed results for our main experimental setting (described in Section 5.1 of the main paper); §B.1 provides additional plots that supplement Section 5.2 of the main paper. We test for Erlang, Hyperexponential, and Lognormal alternatives with different parameters in §C (supplementing Section 5.3 of the paper), and §C.1 and C.2 provide supporting average empirical distribution plots for the case of E_2 and H_2 with $c^2 = 2$. In §C.3, we take a closer look at the results of the test for $LN(1, 1)$, since it is often the specific model suggested for the service times (e.g., see Brown et al. [2005]). In §D—which complements Section 5.4 of the main paper—, we see how the power increases as the sample size increases for E_2, H_2 with $c^2 = 2$, and $LN(1, 4)$ null hypotheses. §E provides supplementary materials for Section 6 of the main paper on the second normal experiment and §F provides supplementary materials for Section 7 of the main paper on estimating parameters.

B. BASE CASE: TEST FOR EXP

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Table XII. Tests for Exp using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.50	0.34	1.00	0.99	0.50	0.34
E_k	$k = 2$	1.00	0.50	0.56	0.17	1.00	1.83	0.45	0.36
	$k = 4$	1.00	0.25	0.59	0.09	1.00	6.92	0.35	0.40
	$k = 6$	1.00	0.17	0.60	0.06	1.00	13.64	0.29	0.43
H_2	$c^2 = 1.25$	1.00	1.24	0.49	0.36	1.00	1.02	0.50	0.34
	$c^2 = 1.5$	1.00	1.48	0.47	0.39	1.00	1.09	0.49	0.35
	$c^2 = 2$	1.00	1.95	0.45	0.42	1.00	1.28	0.48	0.36
	$c^2 = 4$	1.00	3.77	0.41	0.49	1.00	2.42	0.45	0.40
	$c^2 = 10$	1.00	8.64	0.37	0.52	0.94	5.68	0.42	0.42
Z	$-$	1.00	0.95	0.54	0.21	1.00	1.45	0.47	0.36
LN	$(1, 0.25)$	1.00	0.25	0.59	0.07	1.00	13.93	0.32	0.40
	$(1, 1)$	1.00	0.97	0.52	0.21	1.00	2.24	0.45	0.36
	$(1, 4)$	1.00	3.45	0.43	0.47	0.99	1.87	0.46	0.39
	$(1, 10)$	1.00	6.76	0.36	0.73	0.94	3.00	0.41	0.47
RRI	$p = 0.1$	1.00	0.99	0.50	0.33	1.00	1.22	0.45	0.48
	$p = 0.5$	1.00	0.98	0.50	0.34	1.00	3.03	0.25	1.68
	$p = 0.9$	1.00	0.88	0.50	0.33	1.00	19.13	0.05	12.38
$EARMA$	0.25	1.00	0.99	0.50	0.33	1.00	0.99	0.50	0.34
	0.5	1.00	0.99	0.50	0.33	1.00	0.99	0.50	0.34
	1	1.00	0.97	0.50	0.33	1.00	1.00	0.50	0.34
	3	1.00	0.97	0.50	0.34	1.00	1.01	0.50	0.34
	5.25	1.00	0.90	0.50	0.33	1.00	1.06	0.48	0.35
mH_2	$m = 2$	1.00	2.35	0.46	0.41	1.00	1.49	0.48	0.36
	$m = 5$	1.00	1.32	0.48	0.36	1.00	1.06	0.49	0.34
	$m = 10$	1.00	1.11	0.49	0.35	1.00	1.01	0.50	0.34
	$m = 20$	1.00	1.03	0.50	0.34	1.00	1.00	0.50	0.34
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.41	0.49	1.00	2.83	0.41	0.56
	$p = 0.5$	1.00	3.43	0.41	0.49	1.00	5.89	0.23	1.80
	$p = 0.9$	1.00	2.21	0.41	0.48	1.00	26.21	0.05	13.16

Table XIII. Tests for Exp using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	9487	0.50 ± 0.0057	9487	0.50 ± 0.0057	9478	0.50 ± 0.0057	9515	0.50 ± 0.0056
E_k	$k = 2$	28	0.00 ± 0.0001	28	0.00 ± 0.0001	7547	0.28 ± 0.0053	3320	0.08 ± 0.0029
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	25	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	8843	0.42 ± 0.0058	8843	0.42 ± 0.0058	9378	0.48 ± 0.0057	9451	0.49 ± 0.0057
	$c^2 = 1.5$	7204	0.27 ± 0.0053	7204	0.27 ± 0.0053	9148	0.46 ± 0.0058	9331	0.48 ± 0.0058
	$c^2 = 2$	3603	0.09 ± 0.0032	3603	0.09 ± 0.0032	8538	0.39 ± 0.0059	8667	0.40 ± 0.0058
	$c^2 = 4$	90	0.00 ± 0.0003	90	0.00 ± 0.0003	3868	0.11 ± 0.0038	4569	0.13 ± 0.0039
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	147	0.00 ± 0.0004	878	0.02 ± 0.0012
Z	$-$	1200	0.02 ± 0.0009	1200	0.02 ± 0.0009	8623	0.39 ± 0.0058	7016	0.26 ± 0.0053
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	98	0.00 ± 0.0002	98	0.00 ± 0.0002	7499	0.30 ± 0.0057	3482	0.08 ± 0.0025
	$(1, 4)$	176	0.00 ± 0.0005	176	0.00 ± 0.0005	5348	0.18 ± 0.0047	5542	0.18 ± 0.0047
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	426	0.01 ± 0.0009	353	0.01 ± 0.0008
RRI	$p = 0.1$	9048	0.41 ± 0.0055	9048	0.41 ± 0.0055	2554	0.04 ± 0.0014	1911	0.03 ± 0.0012
	$p = 0.5$	4659	0.11 ± 0.0030	4659	0.11 ± 0.0030	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	16	0.00 ± 0.0001	16	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	9284	0.47 ± 0.0058	9284	0.47 ± 0.0058	9192	0.46 ± 0.0058	9475	0.50 ± 0.0057
	0.5	8865	0.43 ± 0.0059	8865	0.43 ± 0.0059	8818	0.42 ± 0.0059	9516	0.50 ± 0.0057
	1	8178	0.37 ± 0.0059	8178	0.37 ± 0.0059	8193	0.38 ± 0.0060	9419	0.50 ± 0.0057
	3	5209	0.21 ± 0.0055	5209	0.21 ± 0.0055	5074	0.16 ± 0.0044	6356	0.23 ± 0.0050
	5.25	4100	0.14 ± 0.0044	4100	0.14 ± 0.0044	5378	0.22 ± 0.0056	8215	0.38 ± 0.0061
mH_2	$m = 2$	4398	0.14 ± 0.0044	4398	0.14 ± 0.0044	7572	0.32 ± 0.0058	8871	0.42 ± 0.0058
	$m = 5$	7514	0.32 ± 0.0058	7514	0.32 ± 0.0058	7773	0.35 ± 0.0060	9363	0.48 ± 0.0057
	$m = 10$	7818	0.35 ± 0.0060	7818	0.35 ± 0.0060	7739	0.35 ± 0.0060	9423	0.49 ± 0.0057
	$m = 20$	7996	0.37 ± 0.0060	7996	0.37 ± 0.0060	7934	0.36 ± 0.0060	9457	0.50 ± 0.0057
$RRI(H_2)$	$p = 0.1$	104	0.00 ± 0.0003	104	0.00 ± 0.0003	554	0.01 ± 0.0006	126	0.00 ± 0.0003
	$p = 0.5$	253	0.00 ± 0.0005	253	0.00 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	4	0.00 ± 0.0000	4	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XIV. Tests for Exp using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.00	1.00	0.50	0.34	0.50	0.33	1.00	1.00	0.50	0.34
E_k	$k = 2$	0.50	0.33	0.99	0.63	0.59	0.20	0.50	0.33	0.99	0.50	0.62	0.16
	$k = 4$	0.50	0.33	0.99	0.36	0.68	0.11	0.50	0.33	0.99	0.25	0.73	0.08
	$k = 6$	0.50	0.33	0.99	0.25	0.73	0.07	0.50	0.33	0.99	0.17	0.77	0.05
H_2	$c^2 = 1.25$	0.50	0.33	1.00	0.96	0.50	0.34	0.50	0.34	1.00	1.23	0.47	0.36
	$c^2 = 1.5$	0.50	0.33	1.00	0.93	0.51	0.34	0.50	0.34	1.00	1.46	0.45	0.38
	$c^2 = 2$	0.50	0.33	1.00	0.88	0.52	0.33	0.50	0.34	1.01	1.91	0.42	0.40
	$c^2 = 4$	0.50	0.33	1.00	0.77	0.55	0.28	0.50	0.34	1.02	3.55	0.35	0.44
	$c^2 = 10$	0.50	0.33	1.00	0.67	0.58	0.23	0.50	0.36	1.05	6.50	0.32	0.42
Z	–	0.50	0.33	1.00	0.77	0.56	0.22	0.50	0.34	1.00	0.91	0.58	0.20
LN	$(1, 0.25)$	0.50	0.33	0.99	0.26	0.71	0.10	0.50	0.33	0.99	0.25	0.74	0.06
	$(1, 1)$	0.50	0.33	0.99	0.51	0.61	0.22	0.50	0.33	1.00	0.95	0.56	0.18
	$(1, 4)$	0.50	0.33	1.00	0.62	0.57	0.30	0.50	0.34	1.02	2.90	0.38	0.42
	$(1, 10)$	0.50	0.33	1.00	0.62	0.57	0.31	0.50	0.35	1.03	4.59	0.29	0.66
RRI	$p = 0.1$	0.50	0.34	1.00	0.99	0.50	0.33	0.50	0.34	1.00	0.99	0.50	0.33
	$p = 0.5$	0.50	0.34	1.01	0.99	0.50	0.34	0.50	0.34	1.01	0.99	0.50	0.34
	$p = 0.9$	0.50	0.38	1.07	0.93	0.54	0.33	0.50	0.37	1.07	0.94	0.54	0.33
$EARMA$	0.25	0.50	0.33	1.00	1.00	0.50	0.34	0.50	0.34	1.00	0.99	0.50	0.33
	0.5	0.50	0.34	1.00	1.00	0.50	0.34	0.50	0.34	1.01	0.98	0.50	0.33
	1	0.50	0.34	1.00	1.01	0.50	0.34	0.50	0.34	1.01	0.95	0.50	0.33
	3	0.50	0.36	1.04	0.98	0.51	0.33	0.50	0.35	1.04	0.89	0.51	0.33
	5.25	0.50	0.34	1.01	1.08	0.50	0.33	0.50	0.36	1.04	0.80	0.52	0.32
mH_2	$m = 2$	0.50	0.34	1.00	0.88	0.52	0.32	0.50	0.34	1.02	2.22	0.42	0.38
	$m = 5$	0.50	0.34	1.00	0.96	0.51	0.34	0.50	0.34	1.01	1.28	0.47	0.36
	$m = 10$	0.50	0.34	1.00	0.98	0.50	0.34	0.50	0.34	1.01	1.09	0.49	0.34
	$m = 20$	0.50	0.34	1.00	0.99	0.50	0.34	0.50	0.34	1.00	1.02	0.50	0.34
$RRI(H_2)$	$p = 0.1$	0.50	0.33	1.00	0.77	0.55	0.28	0.50	0.35	1.03	3.52	0.36	0.44
	$p = 0.5$	0.50	0.34	1.01	0.80	0.55	0.28	0.50	0.36	1.05	3.21	0.37	0.46
	$p = 0.9$	0.50	0.37	1.07	1.04	0.58	0.29	0.50	0.43	1.14	2.17	0.44	0.49

Table XV. Tests for Exp using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	9510	0.50 ± 0.0056	9479	0.50 ± 0.0057	9491	0.50 ± 0.0057	9511	0.50 ± 0.0056	9478	0.50 ± 0.0056	9493	0.50 ± 0.0057
E_k	$k = 2$	9929	0.70 ± 0.0051	1384	0.03 ± 0.0010	102	0.00 ± 0.0003	9985	0.78 ± 0.0045	21	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 4$	9999	0.88 ± 0.0033	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.94 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.94 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9524	0.52 ± 0.0056	9438	0.49 ± 0.0056	9433	0.48 ± 0.0057	8956	0.41 ± 0.0056	8744	0.42 ± 0.0059	7501	0.30 ± 0.0056
	$c^2 = 1.5$	9635	0.53 ± 0.0056	9325	0.46 ± 0.0056	9099	0.43 ± 0.0056	8418	0.33 ± 0.0053	7197	0.29 ± 0.0056	3966	0.12 ± 0.0039
	$c^2 = 2$	9707	0.56 ± 0.0056	8900	0.38 ± 0.0053	8052	0.31 ± 0.0053	7186	0.24 ± 0.0046	4447	0.15 ± 0.0044	695	0.02 ± 0.0013
	$c^2 = 4$	9833	0.62 ± 0.0054	6268	0.17 ± 0.0038	3268	0.08 ± 0.0026	3648	0.08 ± 0.0027	1321	0.04 ± 0.0025	22	0.00 ± 0.0003
	$c^2 = 10$	9929	0.68 ± 0.0052	2199	0.04 ± 0.0016	276	0.01 ± 0.0005	928	0.02 ± 0.0014	1083	0.04 ± 0.0027	67	0.00 ± 0.0006
Z	$-$	9829	0.61 ± 0.0055	3675	0.07 ± 0.0022	1158	0.02 ± 0.0012	9438	0.57 ± 0.0061	1228	0.02 ± 0.0009	187	0.00 ± 0.0004
LN	$(1, 0.25)$	10000	0.93 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.94 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9988	0.78 ± 0.0045	911	0.02 ± 0.0008	1	0.00 ± 0.0000	9517	0.53 ± 0.0058	219	0.01 ± 0.0003	24	0.00 ± 0.0001
	$(1, 4)$	9944	0.70 ± 0.0050	3990	0.09 ± 0.0025	372	0.01 ± 0.0005	4742	0.13 ± 0.0036	1239	0.03 ± 0.0019	28	0.00 ± 0.0002
	$(1, 10)$	9948	0.71 ± 0.0050	3476	0.07 ± 0.0021	206	0.00 ± 0.0003	2024	0.04 ± 0.0019	16	0.00 ± 0.0001	0	0.00 ± 0.0000
RRI	$p = 0.1$	9072	0.43 ± 0.0056	9115	0.42 ± 0.0056	9000	0.41 ± 0.0055	9044	0.42 ± 0.0056	9056	0.42 ± 0.0056	9121	0.41 ± 0.0054
	$p = 0.5$	5456	0.15 ± 0.0038	5005	0.12 ± 0.0033	4637	0.11 ± 0.0030	5587	0.16 ± 0.0039	5118	0.13 ± 0.0034	4624	0.11 ± 0.0030
	$p = 0.9$	651	0.01 ± 0.0011	72	0.00 ± 0.0002	11	0.00 ± 0.0001	701	0.01 ± 0.0011	83	0.00 ± 0.0003	13	0.00 ± 0.0001
$EARMA$	0.25	9308	0.46 ± 0.0057	9344	0.48 ± 0.0058	9354	0.48 ± 0.0057	8564	0.36 ± 0.0055	9266	0.47 ± 0.0058	9498	0.50 ± 0.0057
	0.5	8939	0.40 ± 0.0056	9157	0.44 ± 0.0057	9127	0.45 ± 0.0059	7519	0.27 ± 0.0050	8908	0.43 ± 0.0059	9393	0.49 ± 0.0058
	1	8597	0.37 ± 0.0055	8691	0.38 ± 0.0057	8468	0.39 ± 0.0059	6009	0.19 ± 0.0043	8256	0.37 ± 0.0059	8964	0.44 ± 0.0059
	3	1526	0.03 ± 0.0016	5568	0.22 ± 0.0055	6744	0.29 ± 0.0061	1896	0.04 ± 0.0018	5356	0.20 ± 0.0053	6796	0.30 ± 0.0061
	5.25	4811	0.14 ± 0.0038	4794	0.15 ± 0.0044	4704	0.17 ± 0.0047	1598	0.03 ± 0.0018	4216	0.14 ± 0.0044	5680	0.21 ± 0.0051
mH_2	$m = 2$	9101	0.44 ± 0.0057	8564	0.37 ± 0.0056	7819	0.32 ± 0.0056	4355	0.11 ± 0.0032	5327	0.21 ± 0.0053	1546	0.04 ± 0.0024
	$m = 5$	8378	0.36 ± 0.0056	8719	0.39 ± 0.0057	8676	0.40 ± 0.0058	5400	0.17 ± 0.0043	7920	0.35 ± 0.0059	7228	0.29 ± 0.0057
	$m = 10$	8510	0.38 ± 0.0057	8741	0.40 ± 0.0058	8692	0.40 ± 0.0058	6562	0.24 ± 0.0051	8465	0.39 ± 0.0059	9004	0.44 ± 0.0059
	$m = 20$	8860	0.42 ± 0.0058	8899	0.42 ± 0.0058	8786	0.42 ± 0.0059	7804	0.33 ± 0.0057	8852	0.43 ± 0.0059	9431	0.49 ± 0.0057
$RRI(H_2)$	$p = 0.1$	9676	0.55 ± 0.0056	5854	0.15 ± 0.0036	3101	0.07 ± 0.0026	2987	0.07 ± 0.0024	1428	0.04 ± 0.0025	37	0.00 ± 0.0003
	$p = 0.5$	6918	0.24 ± 0.0048	2646	0.05 ± 0.0020	1486	0.03 ± 0.0016	1105	0.02 ± 0.0013	1735	0.04 ± 0.0020	215	0.00 ± 0.0006
	$p = 0.9$	1155	0.03 ± 0.0016	48	0.00 ± 0.0002	5	0.00 ± 0.0001	229	0.00 ± 0.0005	52	0.00 ± 0.0002	5	0.00 ± 0.0000

B.1. Plots of the Average Empirical Distributions for the Base Case

Fig. 7. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; Exp: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

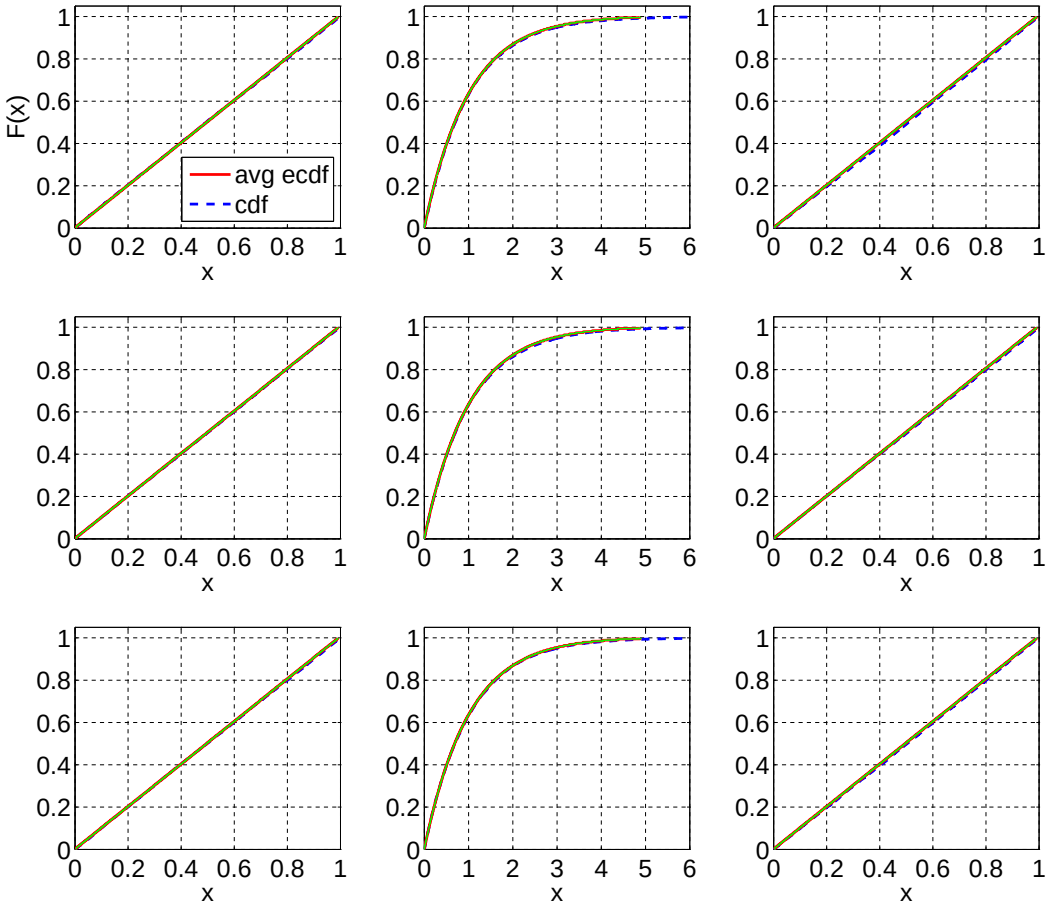


Fig. 8. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; E_2: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

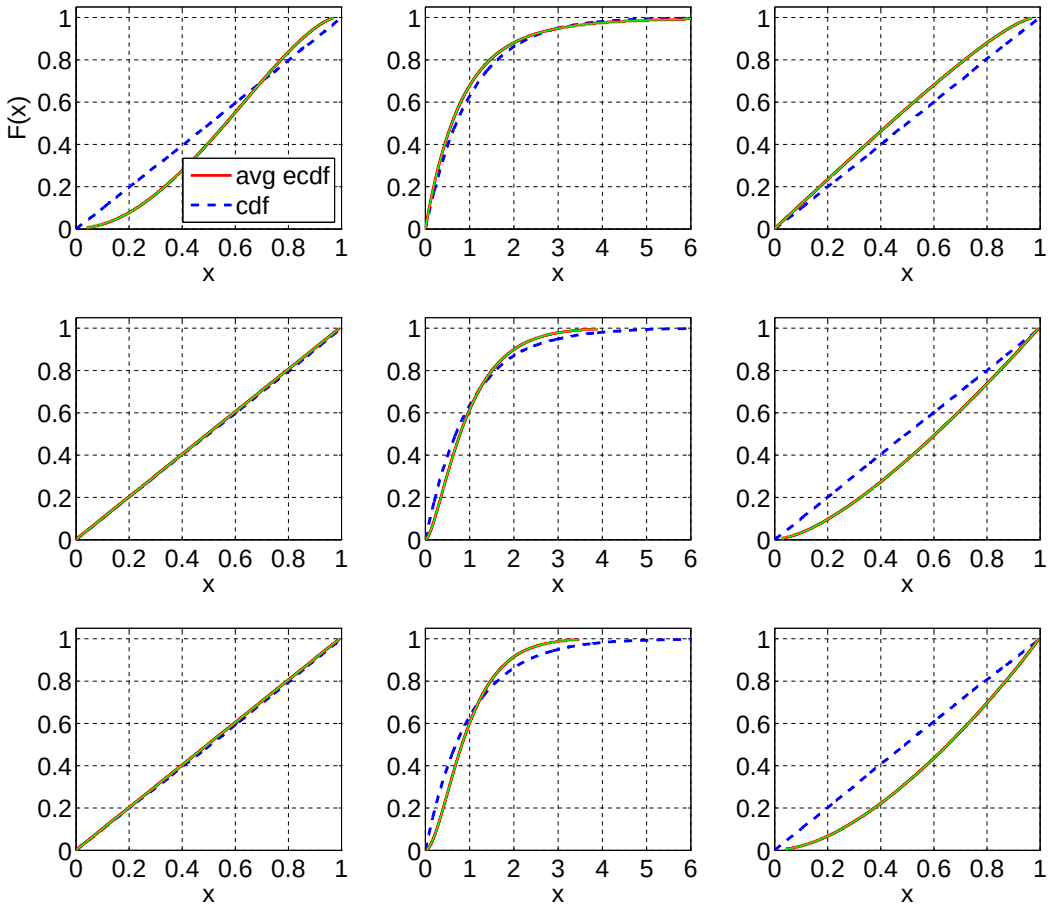


Fig. 9. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; E_4: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

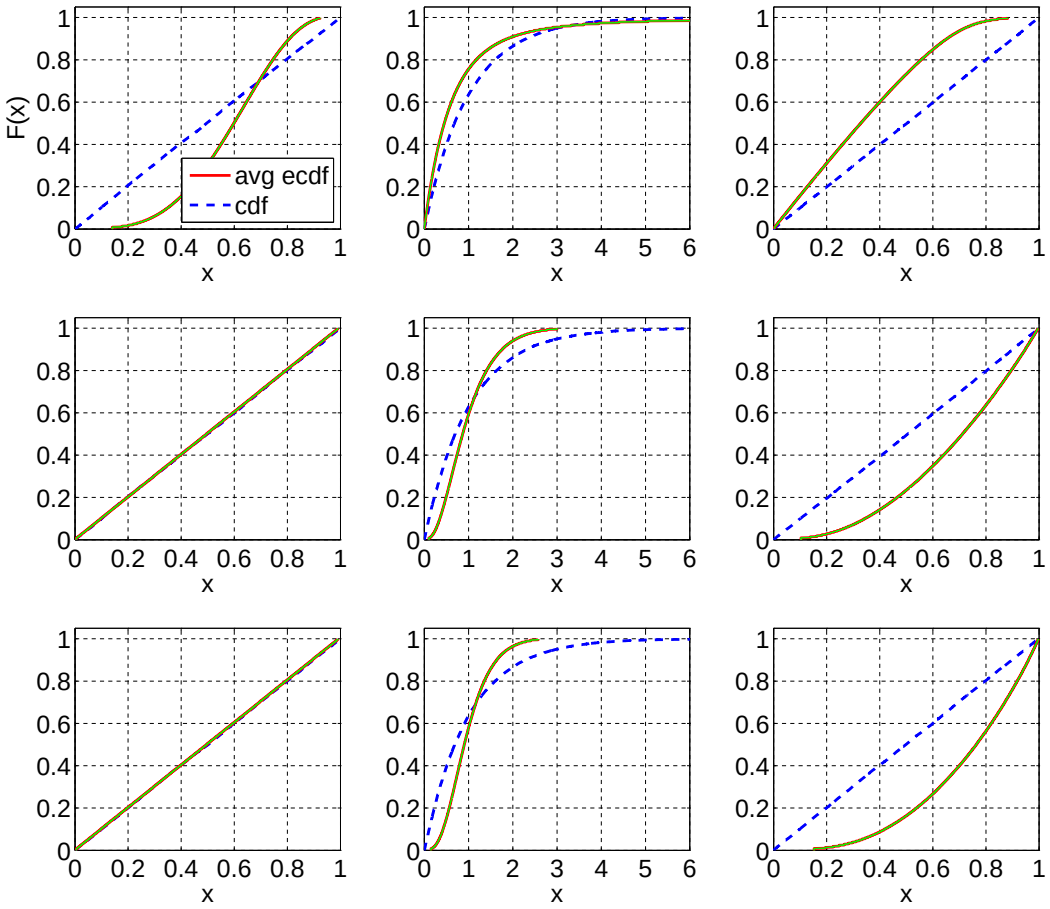


Fig. 10. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; E_6: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

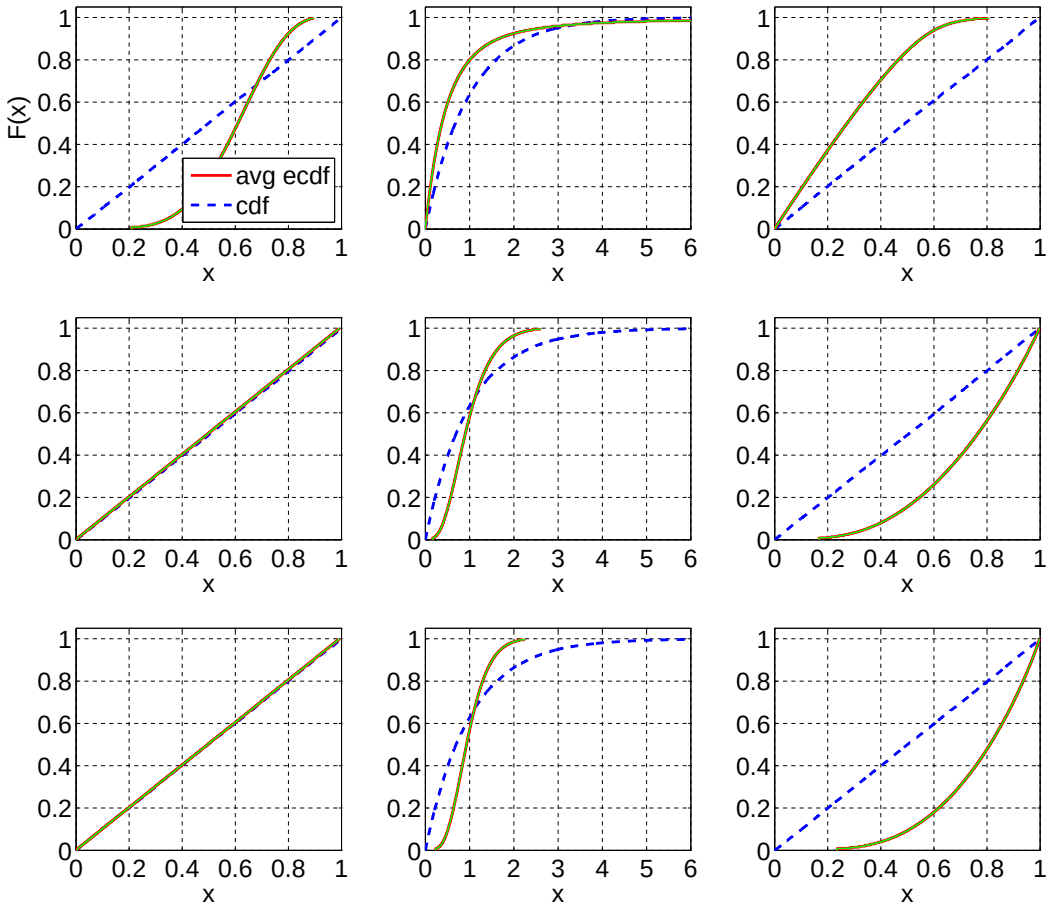


Fig. 11. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; H_2 with $c^2 = 1.25$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

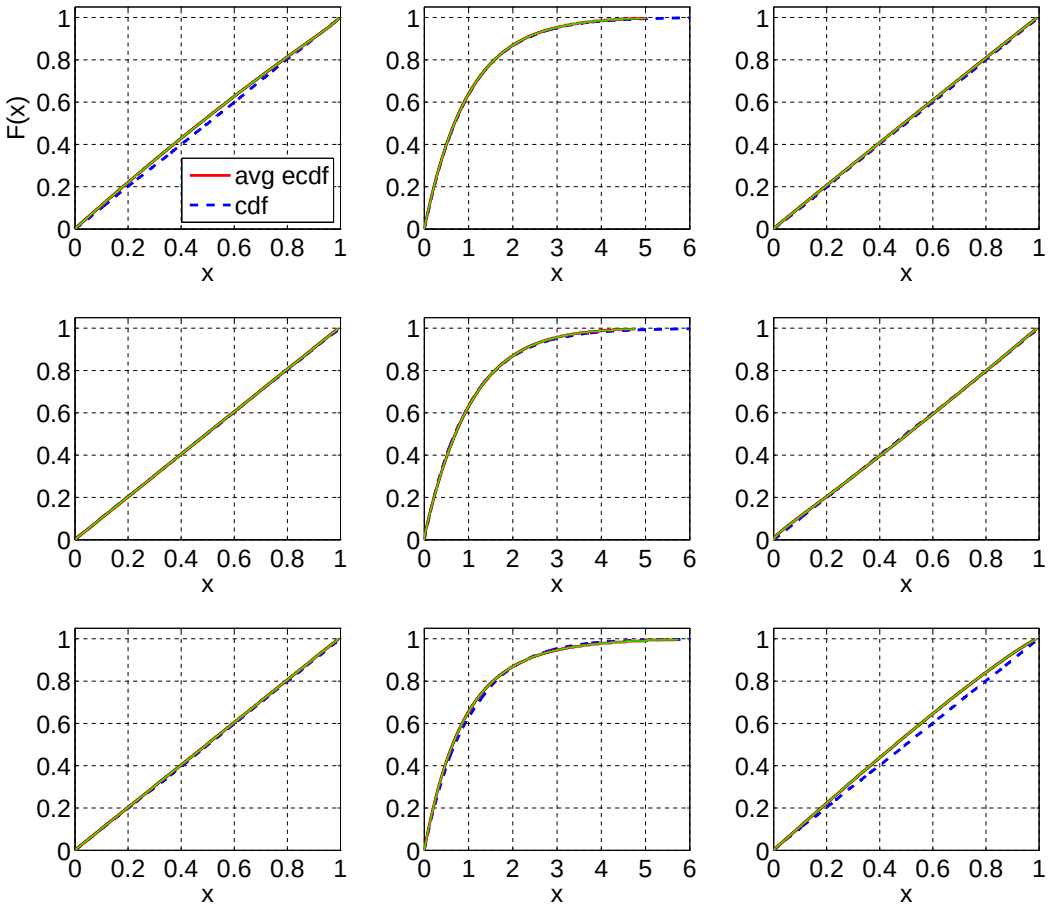


Fig. 12. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; H_2 with $c^2 = 1.5$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

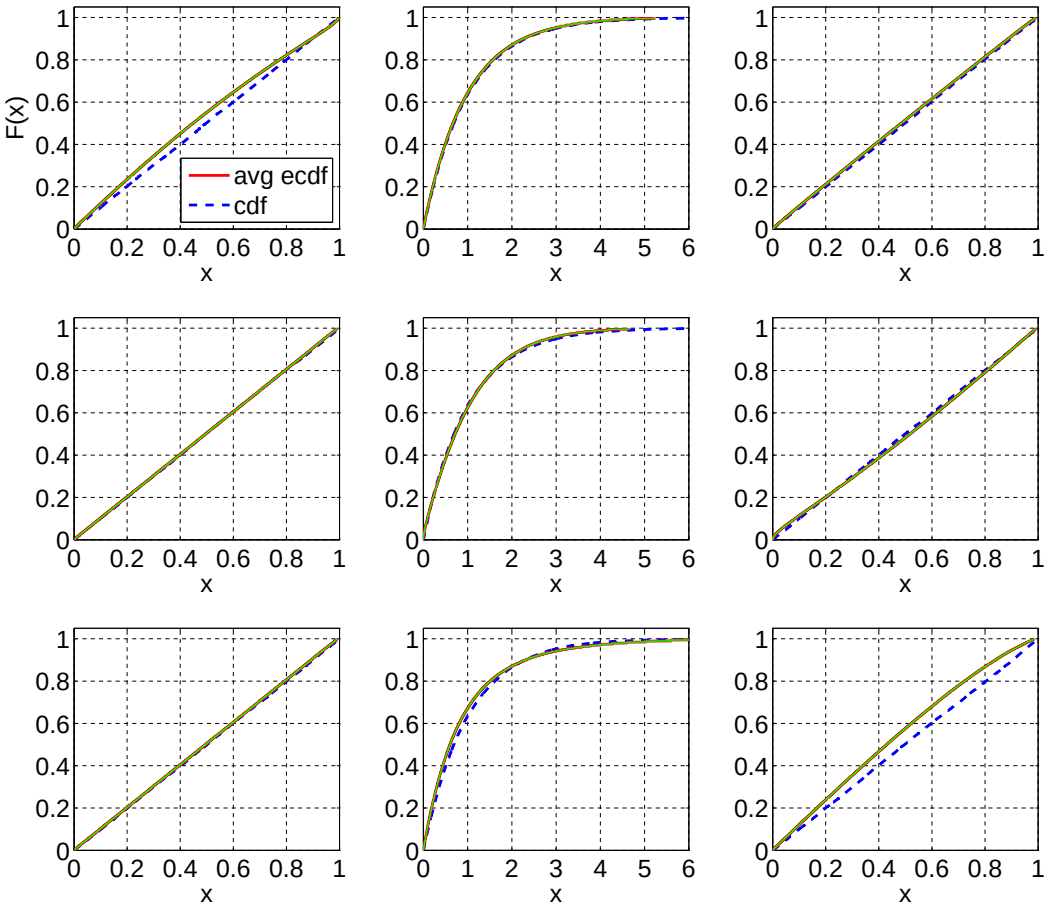


Fig. 13. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; H_2 with $c^2 = 2$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

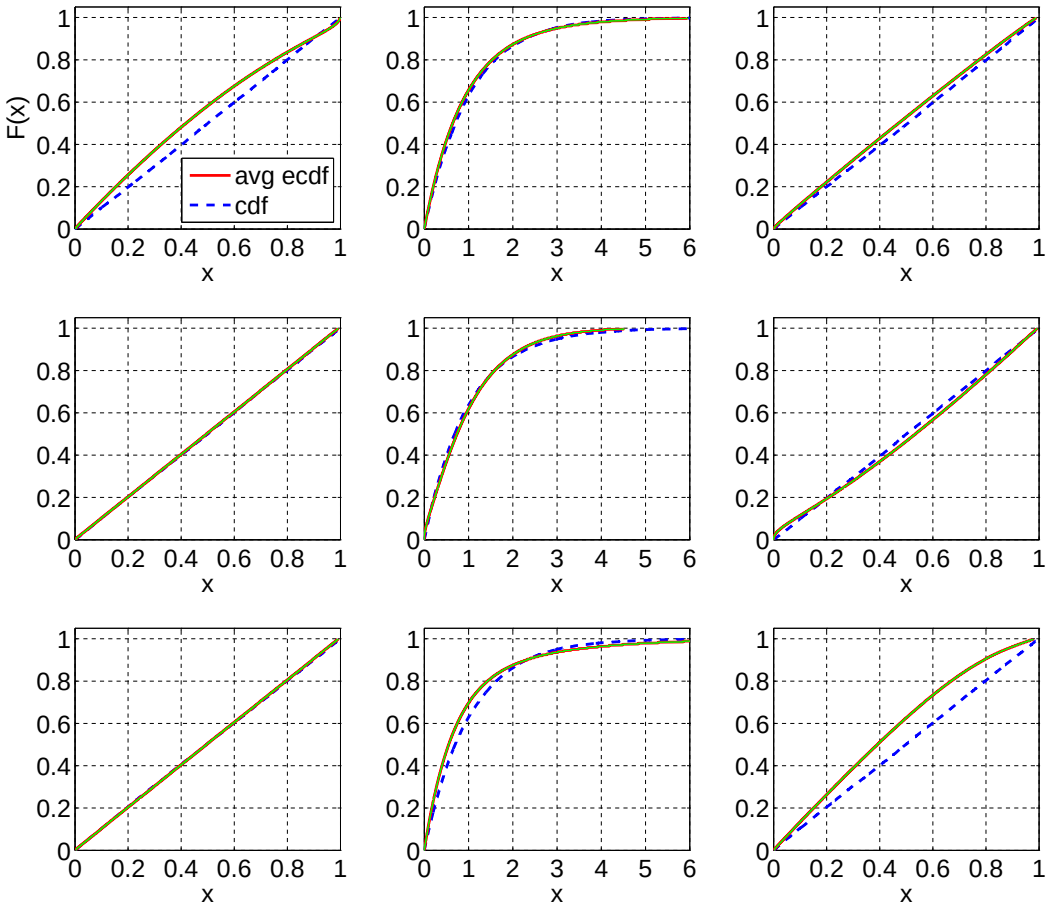


Fig. 14. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; H_2 with $c^2 = 4$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

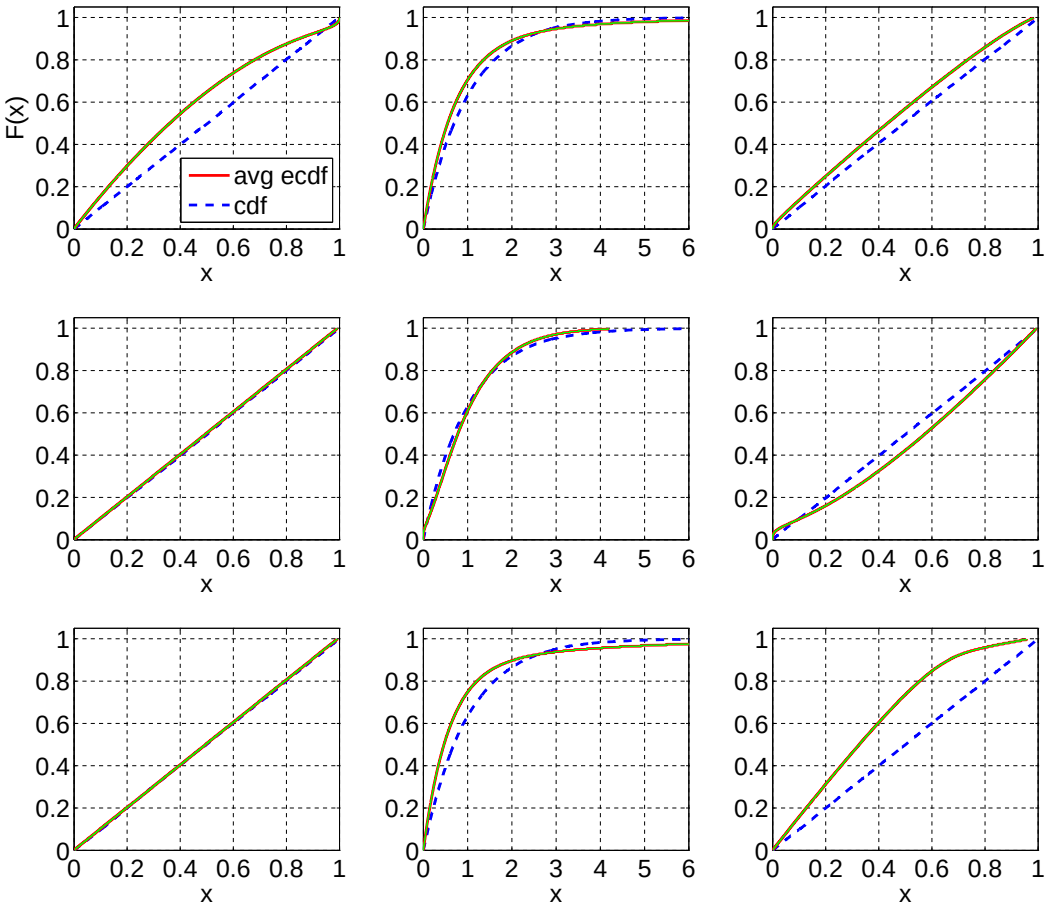


Fig. 15. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; H_2 with $c^2 = 10$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

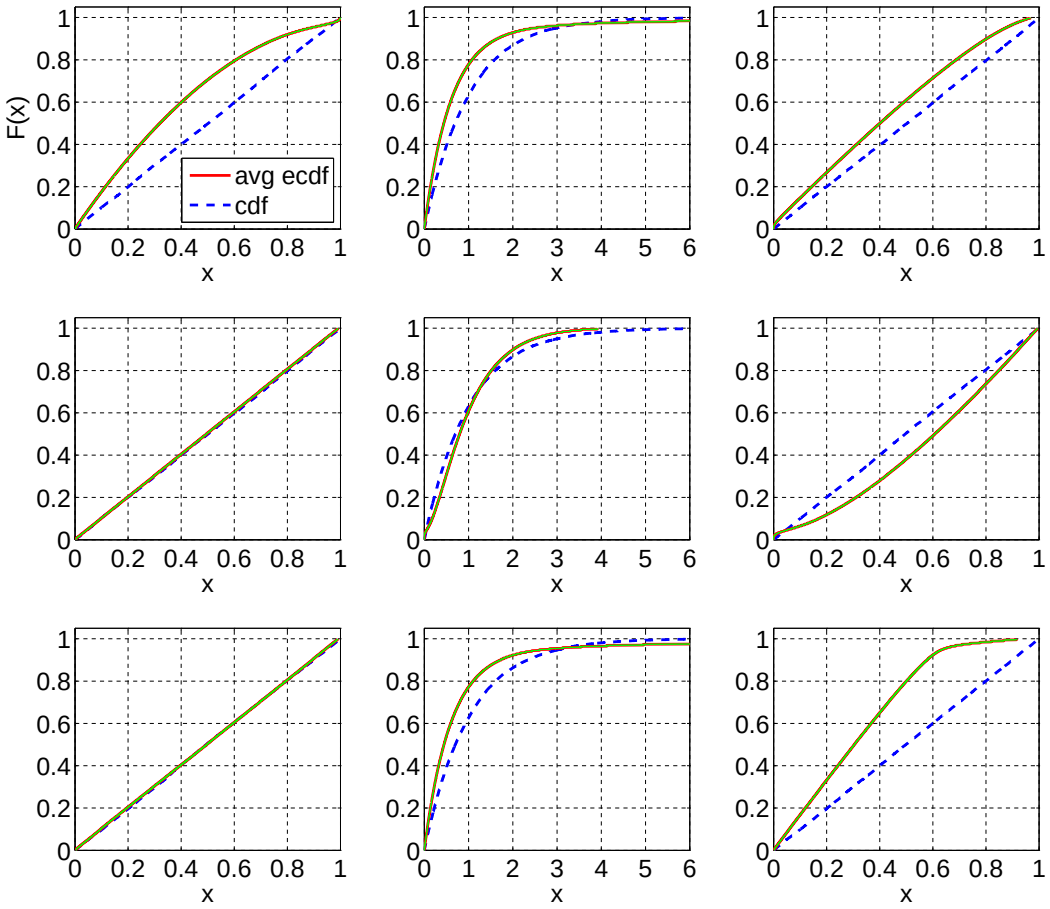


Fig. 16. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; Z: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

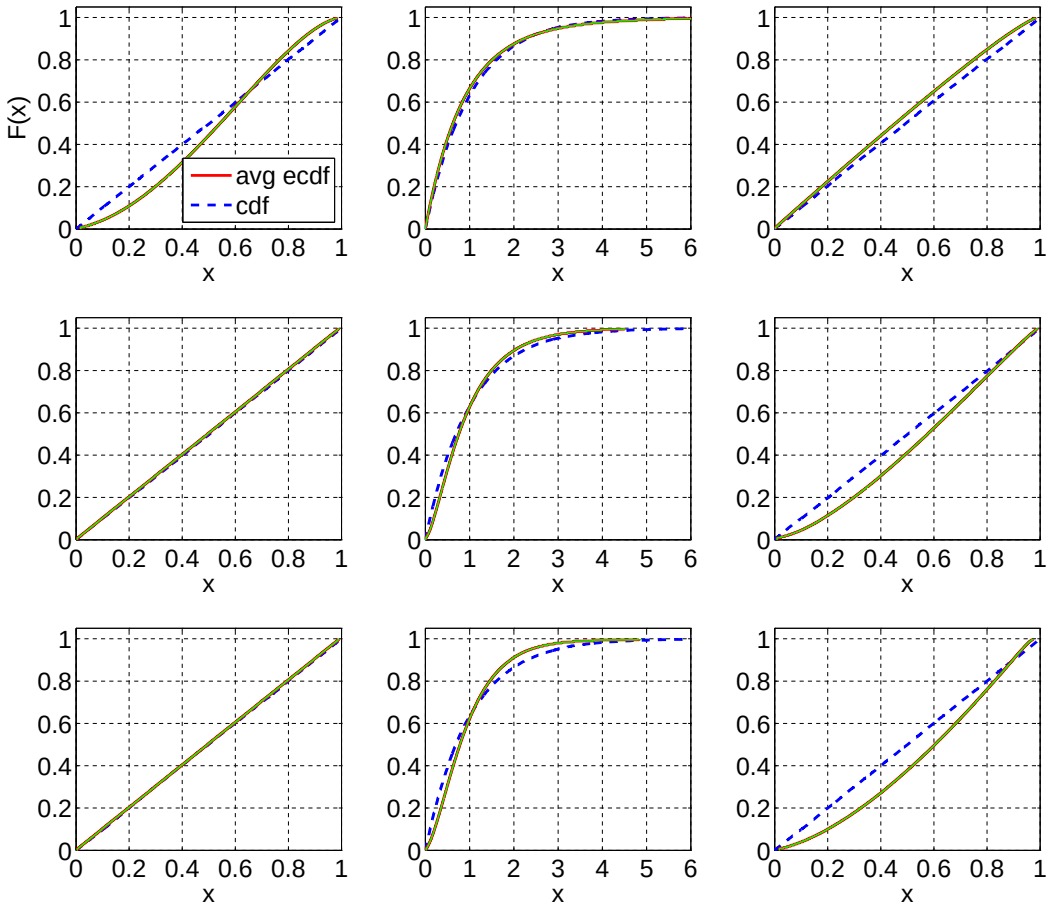


Fig. 17. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $LN(1, 0.25)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

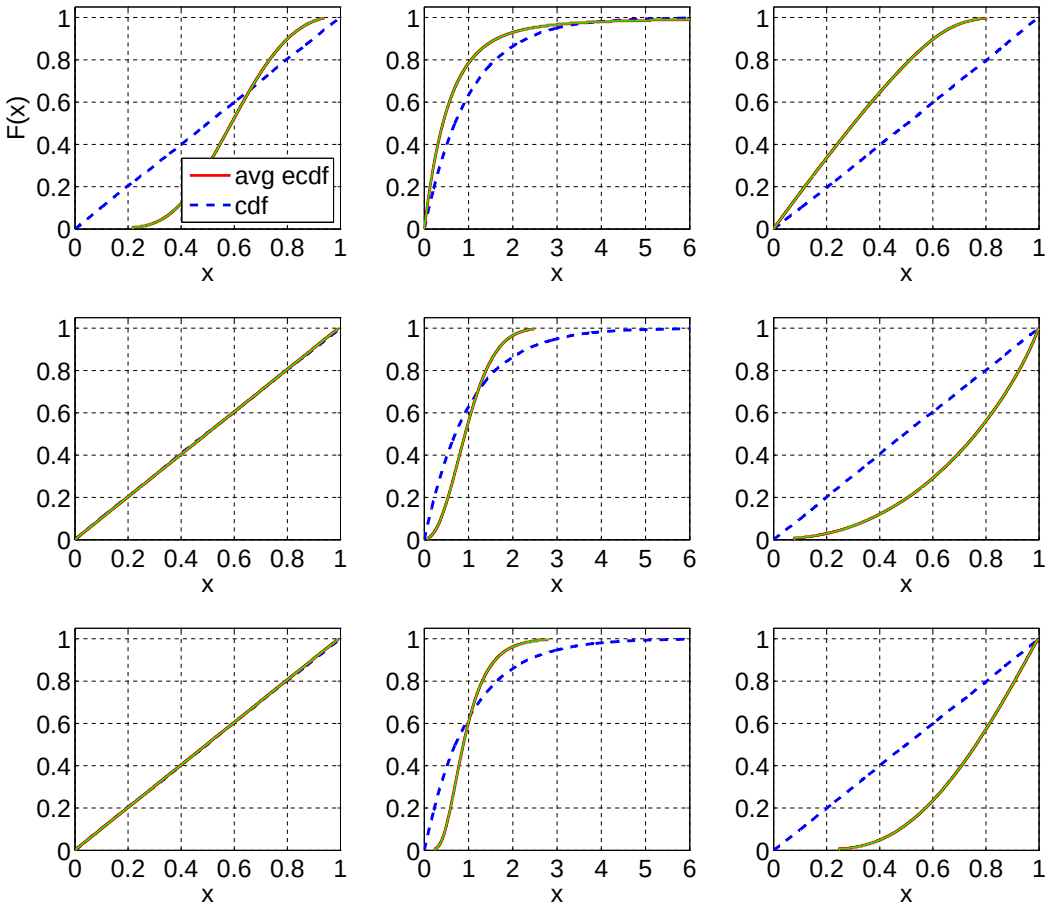


Fig. 18. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $LN(1,1)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1-F(X))$) (from left to right; top to bottom).

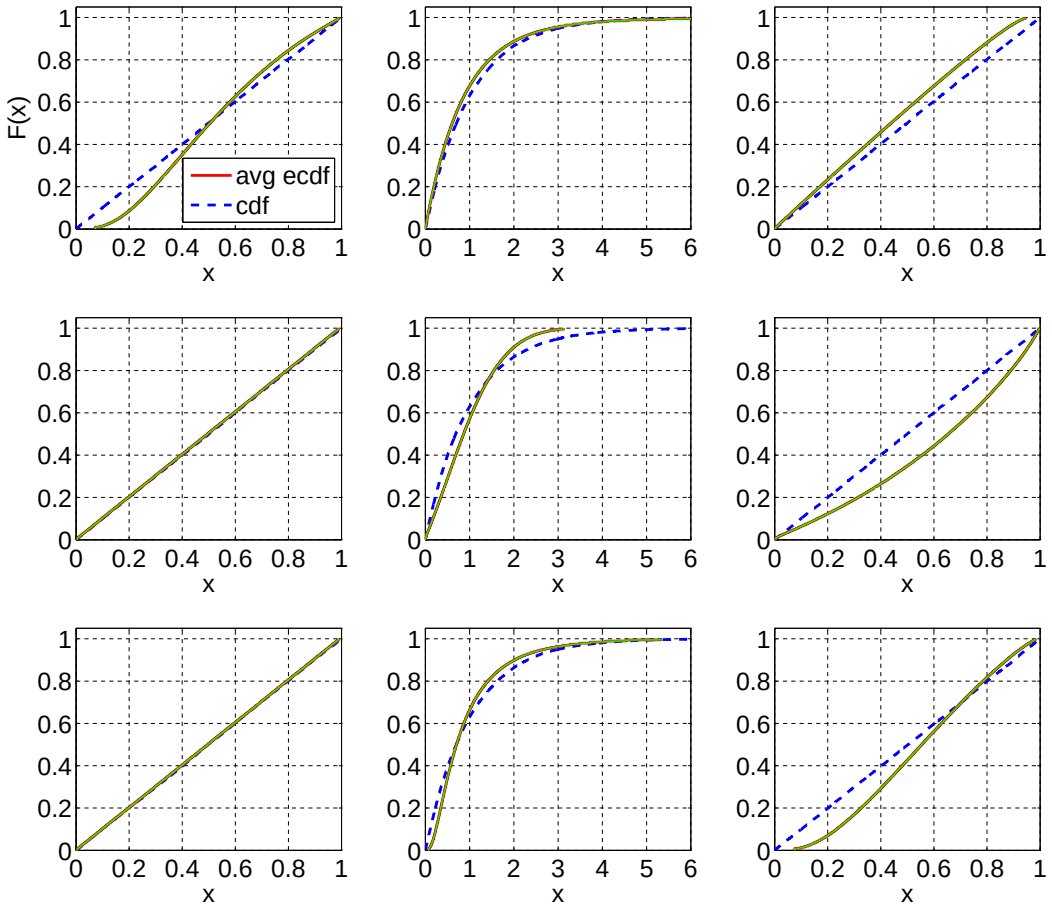


Fig. 19. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $LN(1,4)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1-F(X))$) (from left to right; top to bottom).

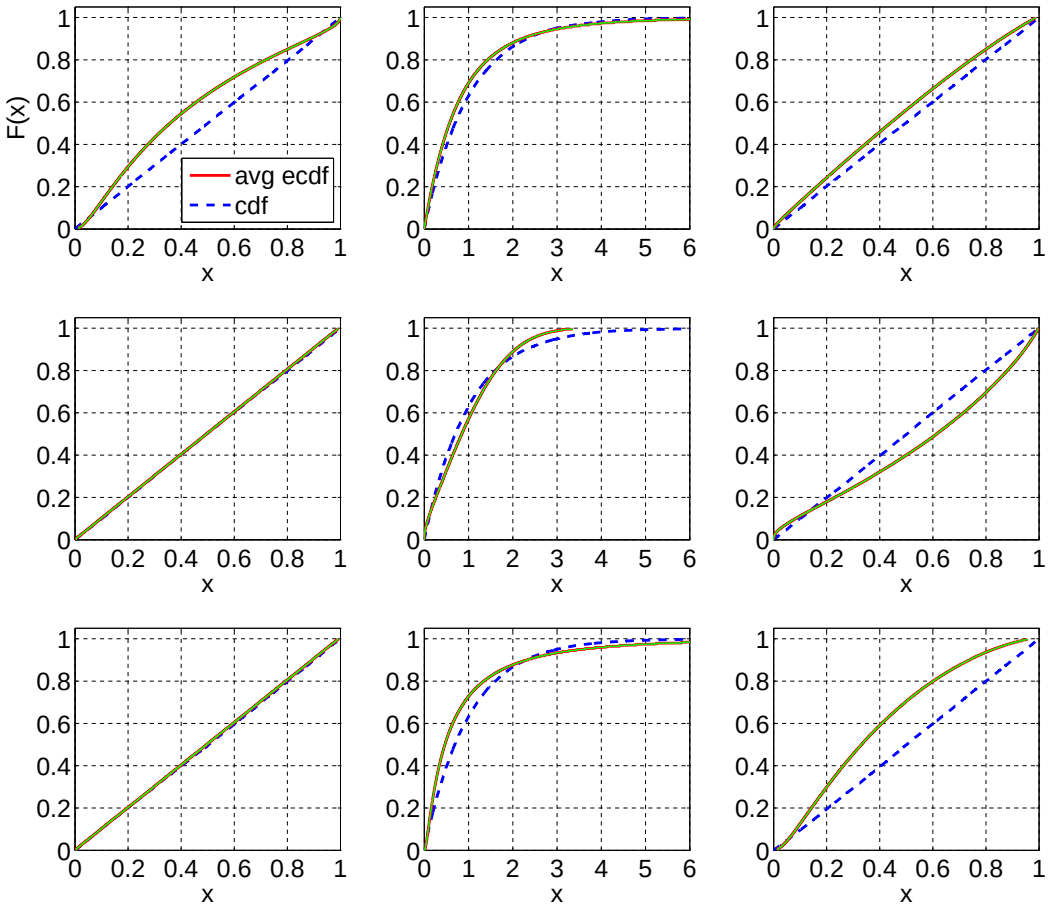


Fig. 20. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $LN(1, 10)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

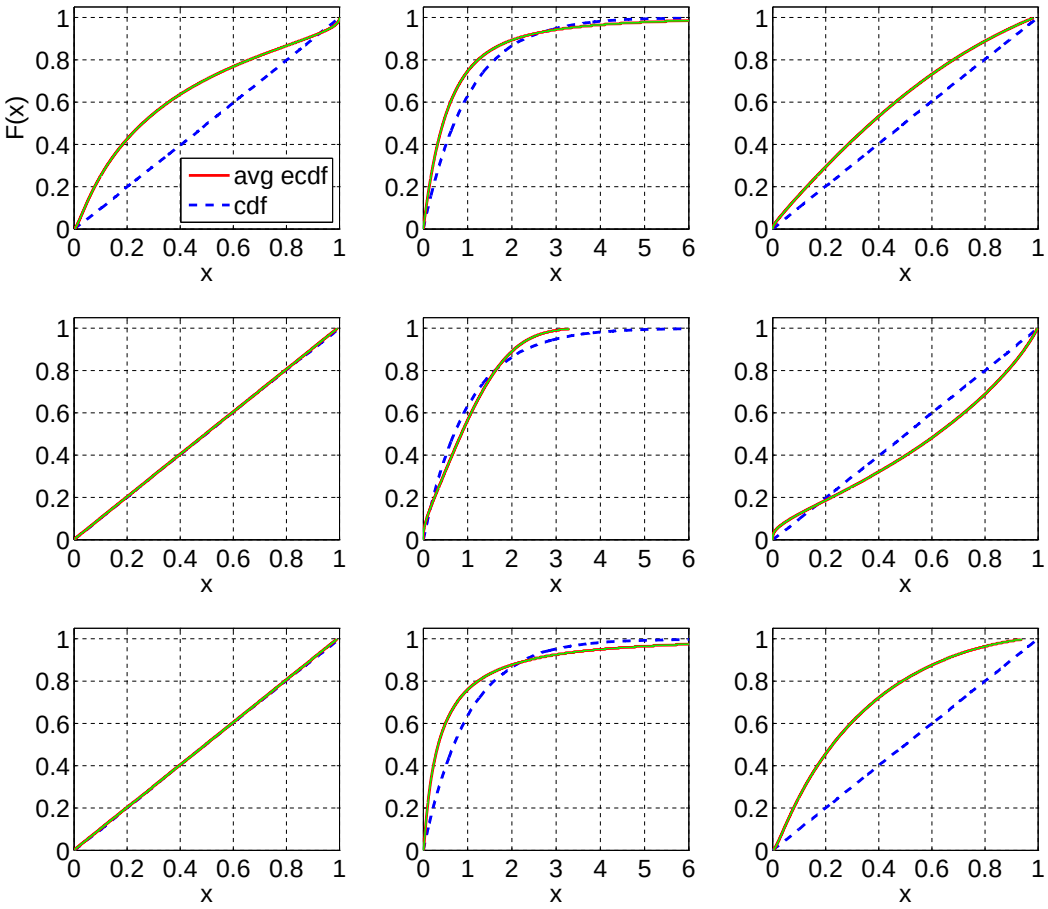


Fig. 21. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; RRI ($p = 0.1$): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

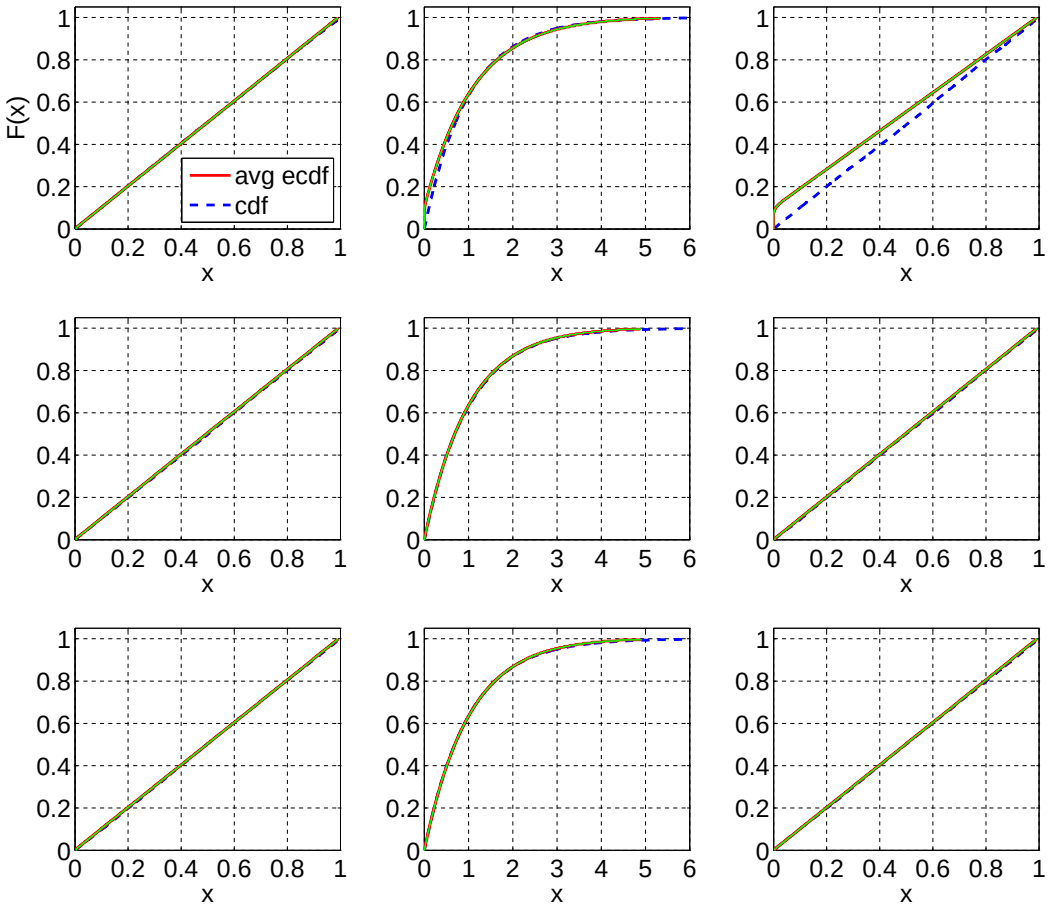


Fig. 22. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; RRI ($p = 0.5$): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

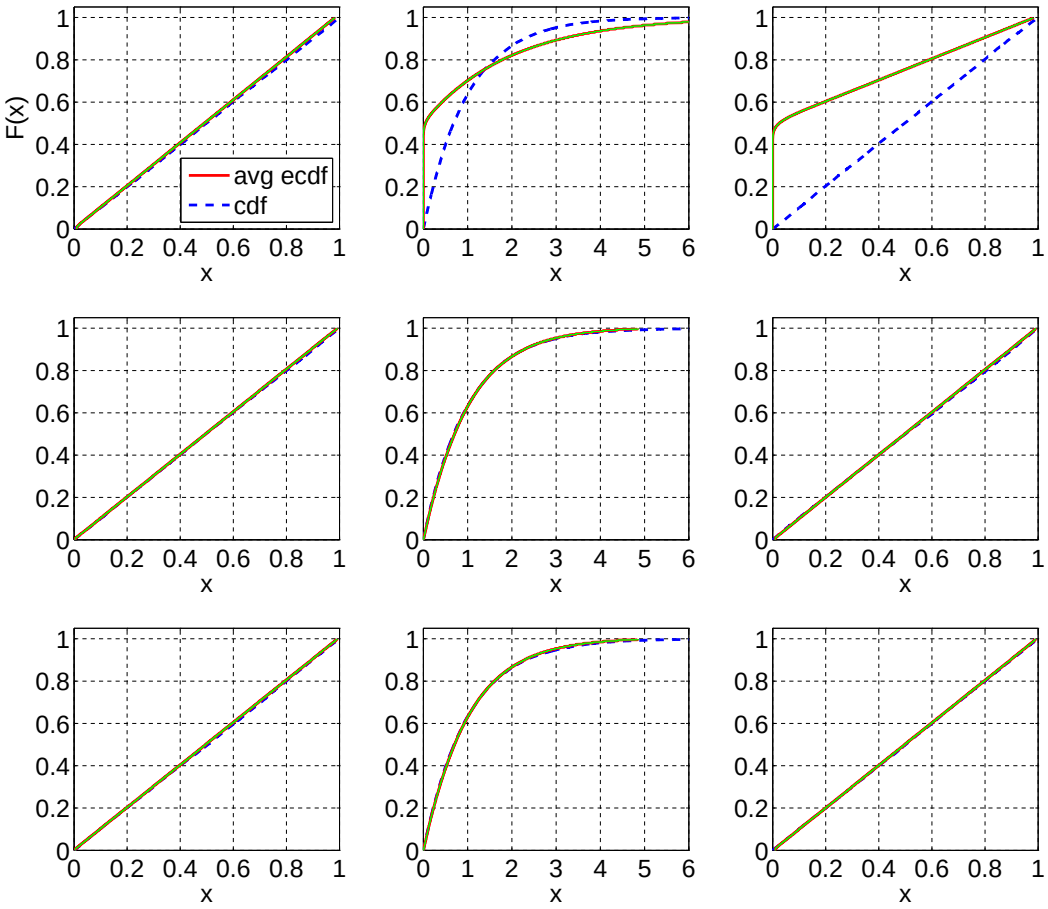


Fig. 23. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; RRI ($p = 0.9$): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

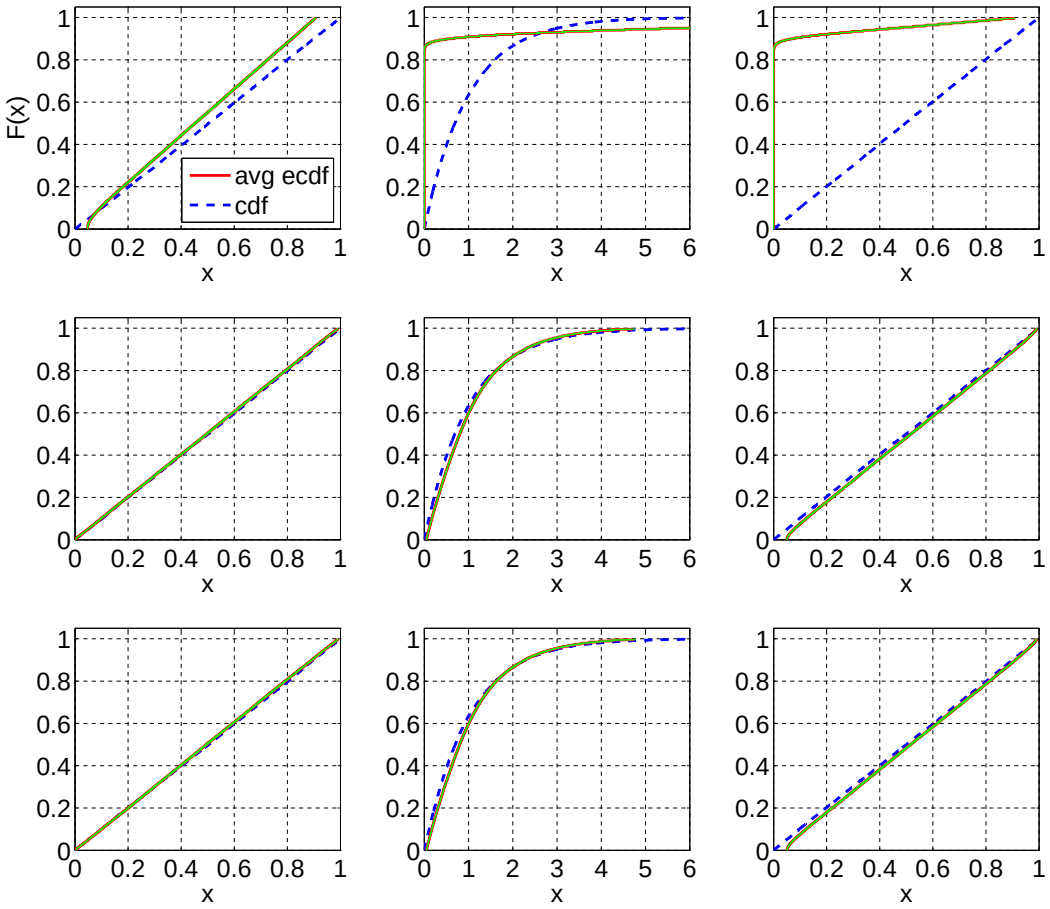


Fig. 24. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $EARMA\,(0.25)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

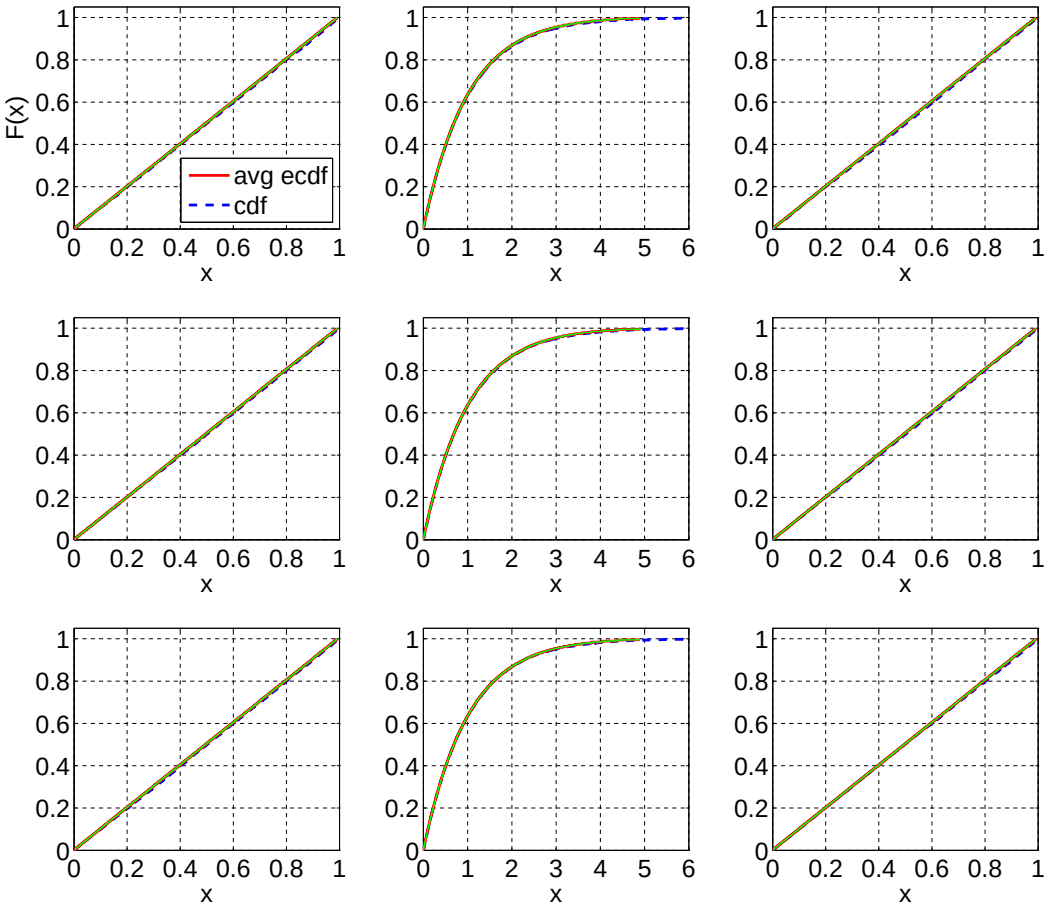


Fig. 25. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $EARMA$ (0.5): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

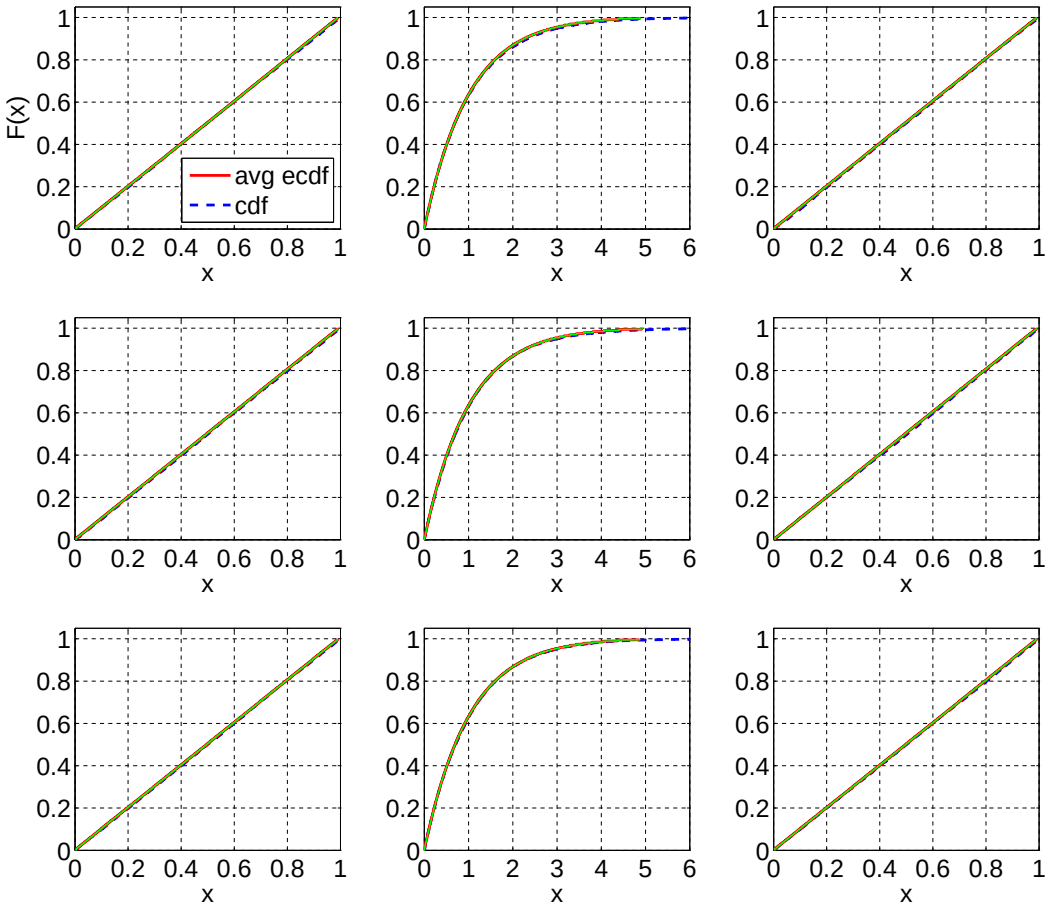


Fig. 26. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $EARMA$ (1): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

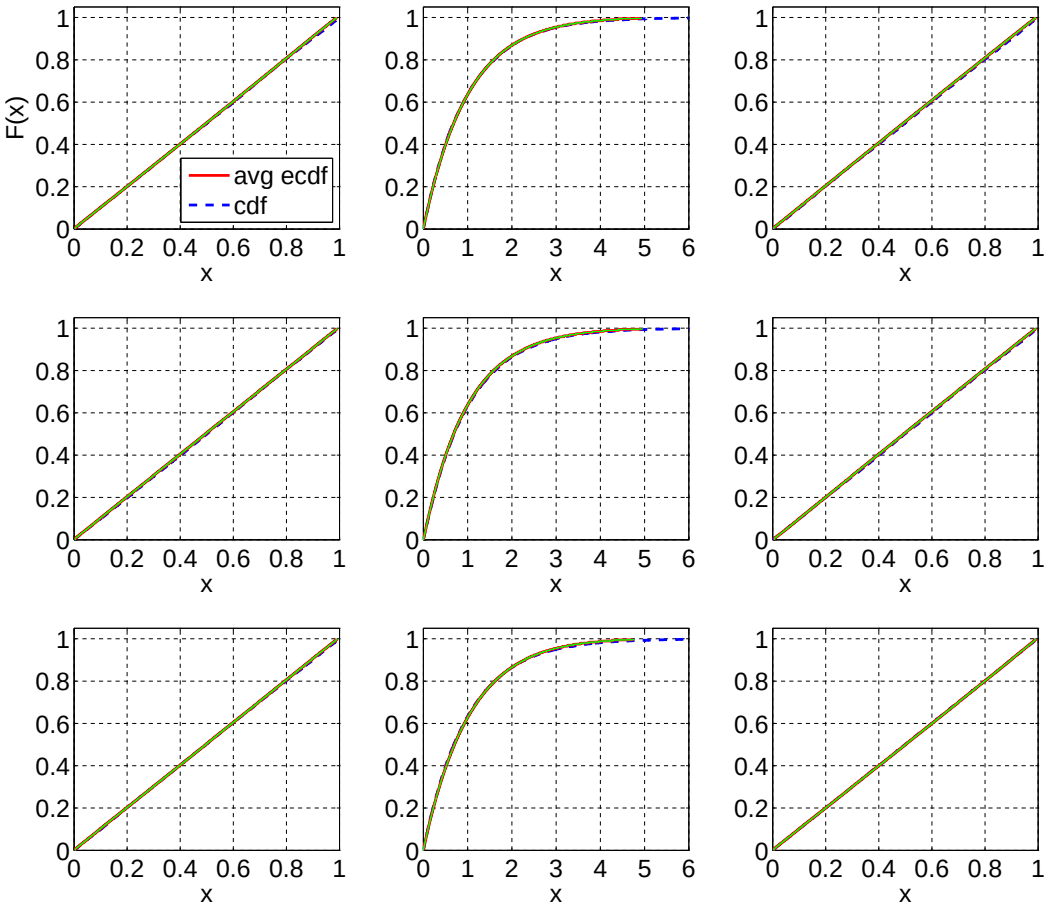


Fig. 27. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $EARMA(3)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

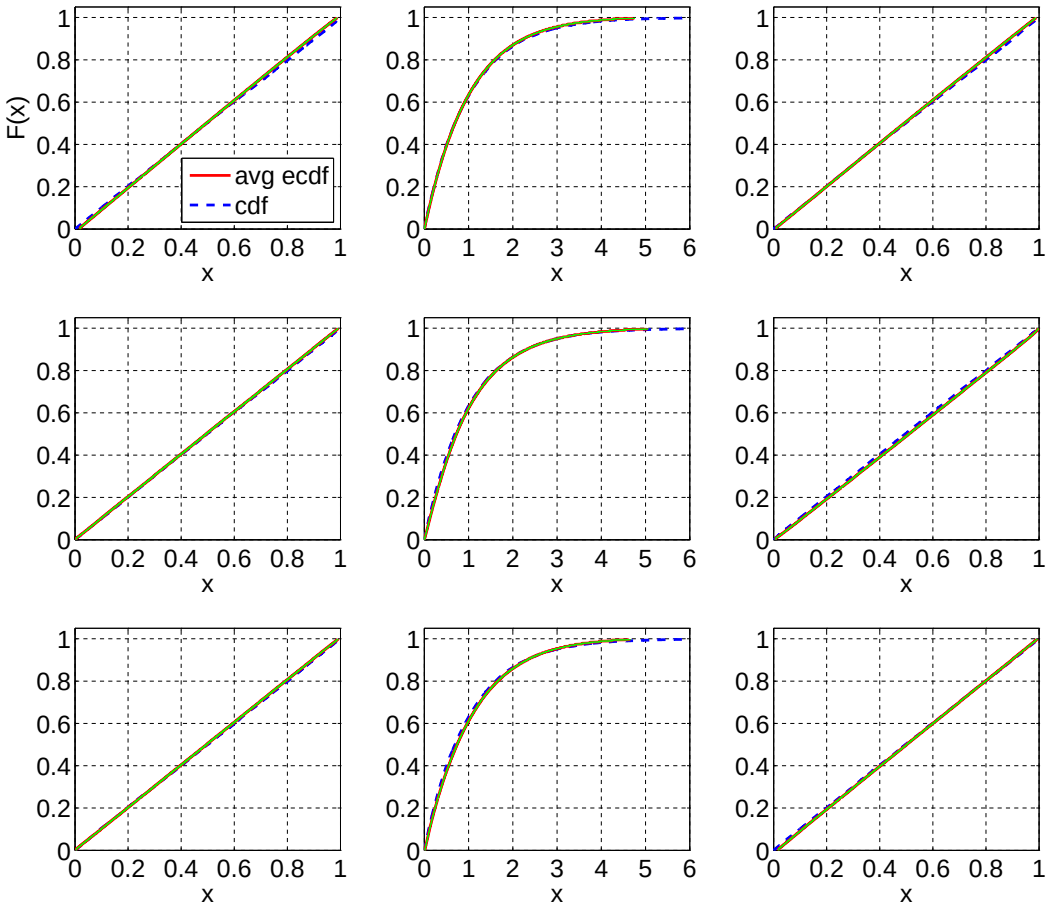


Fig. 28. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $EARMA\,(5.25)$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

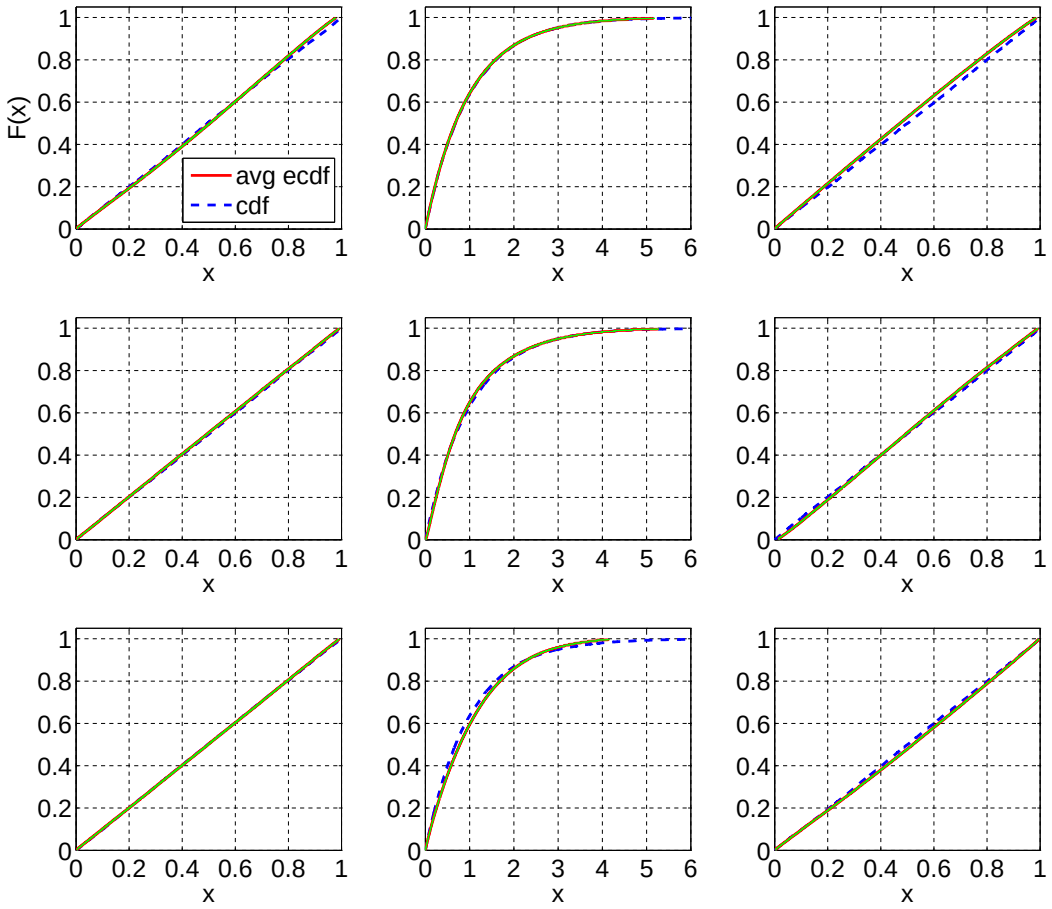


Fig. 29. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $2 - H_2$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

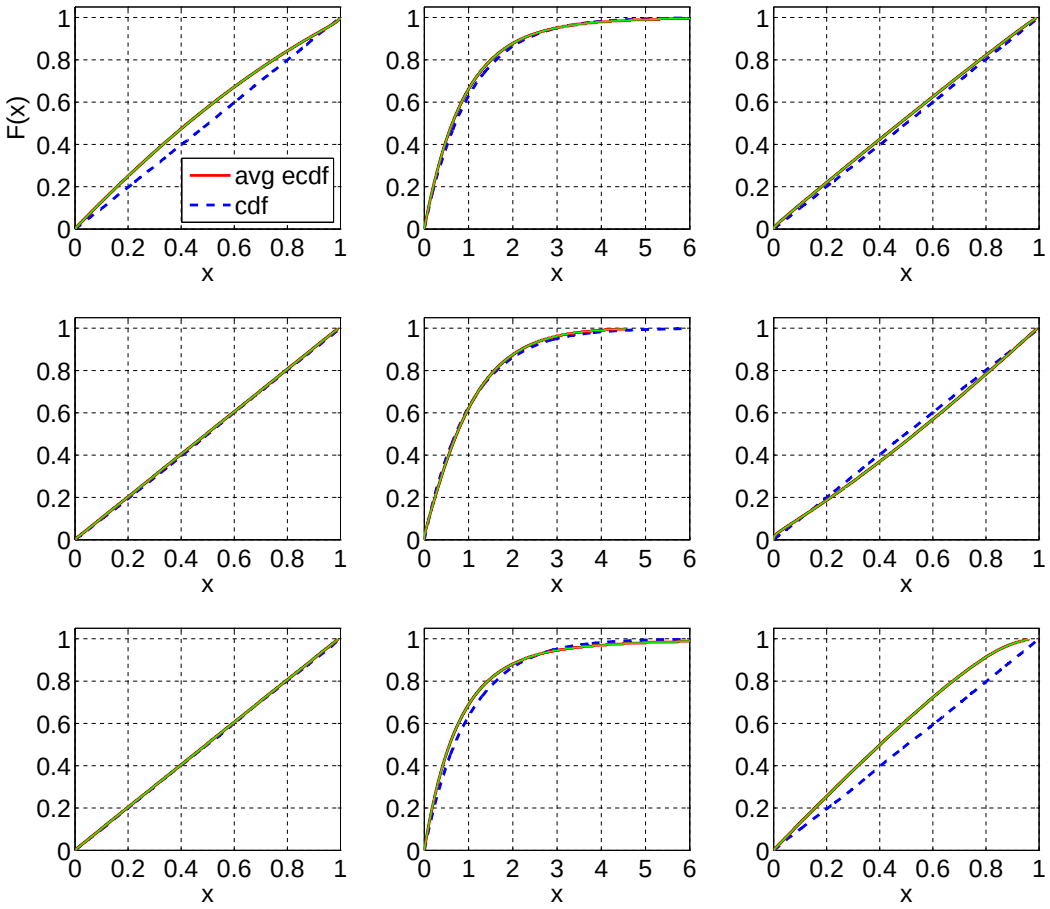


Fig. 30. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $5-H_2$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

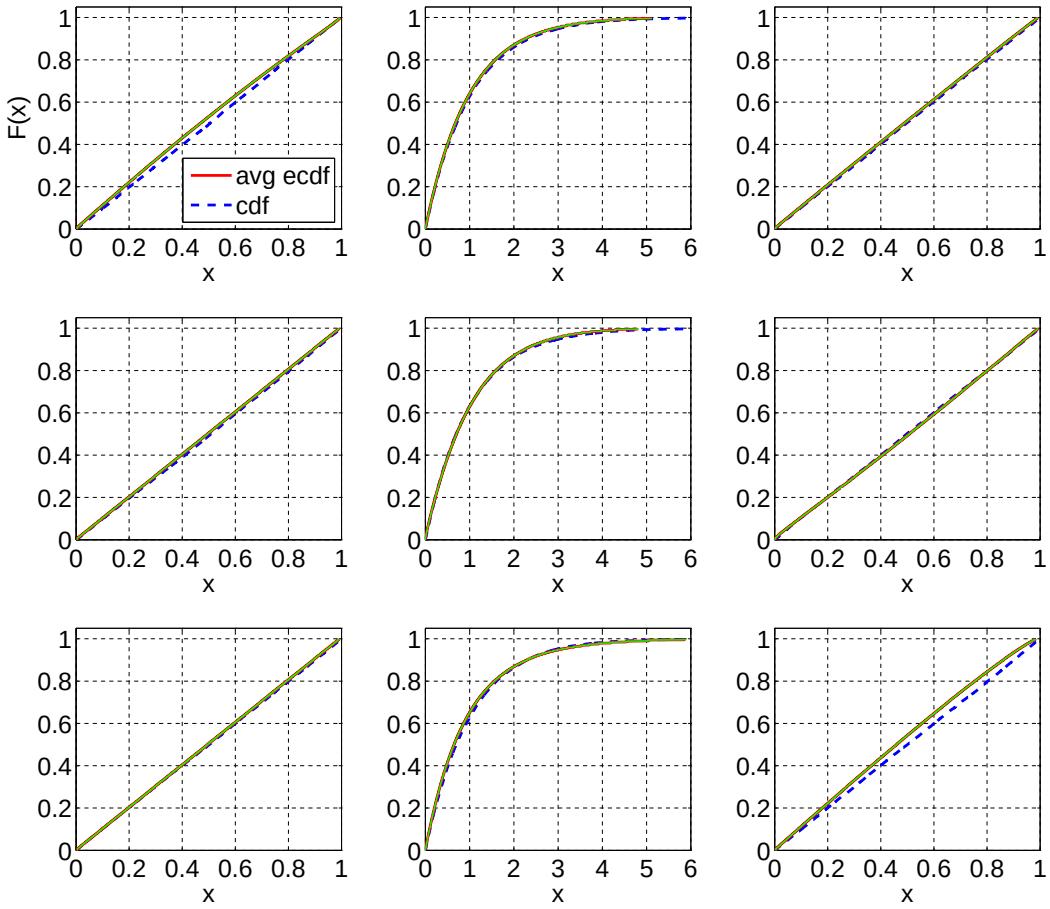


Fig. 31. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $10 - H_2$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

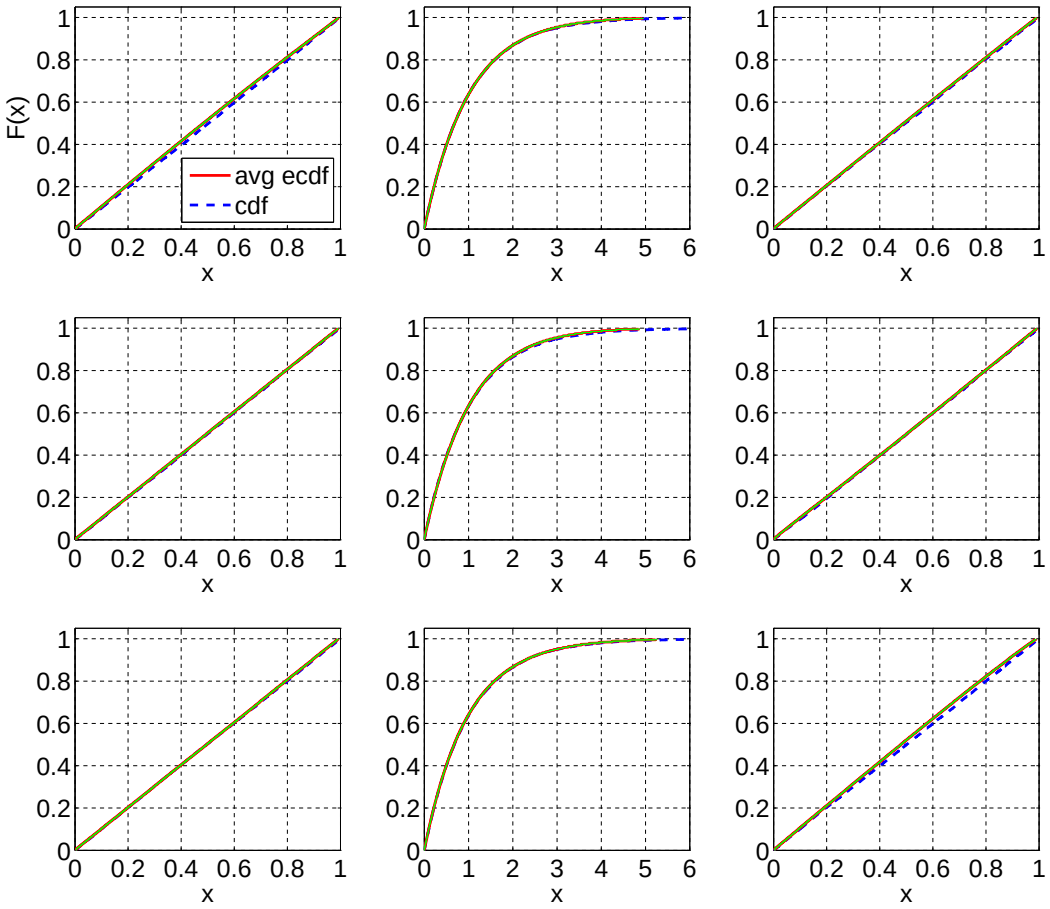


Fig. 32. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; $20 - H_2$: Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

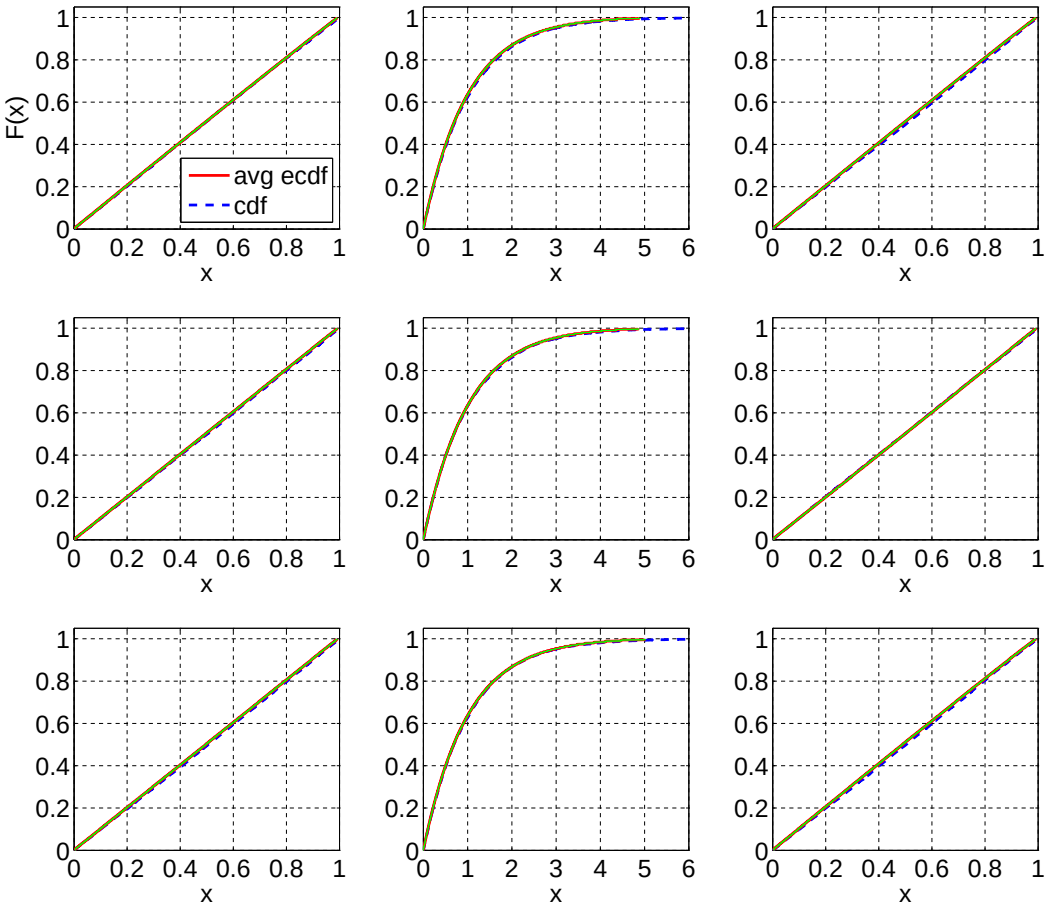


Fig. 33. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; RRI (H_2, $p = 0.1$): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

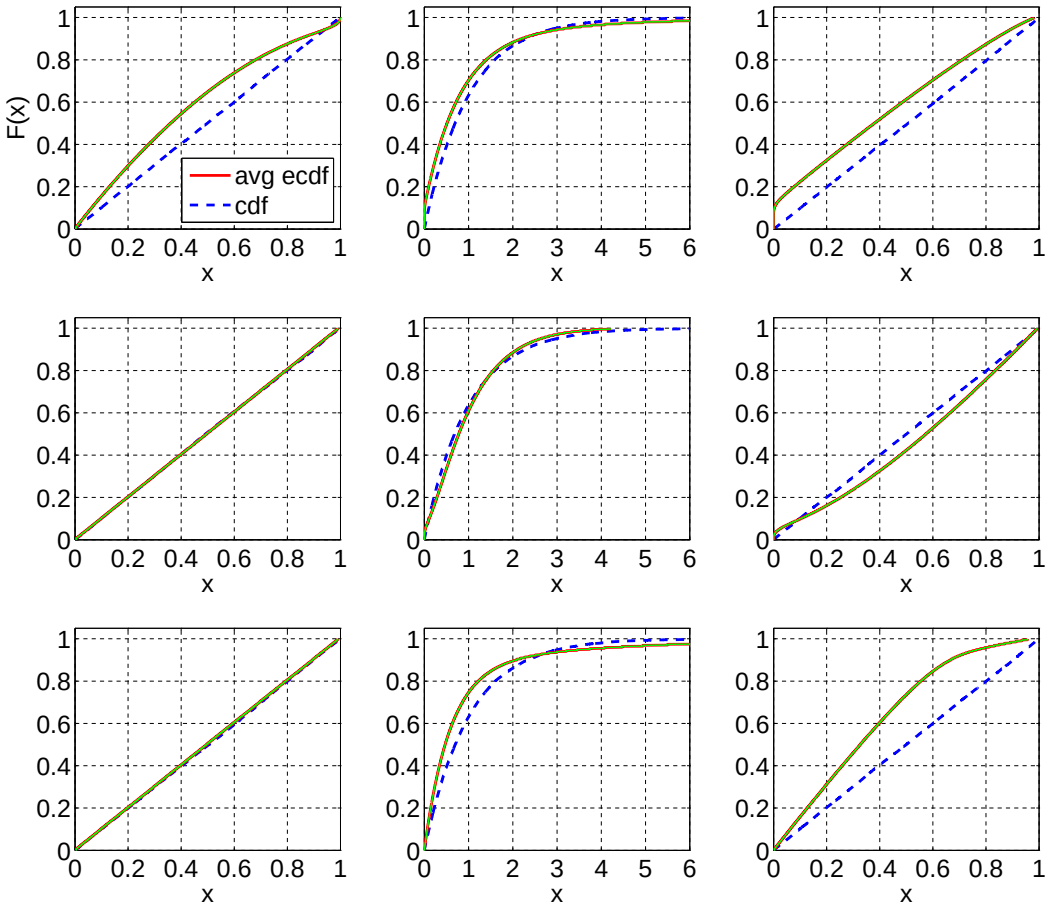


Fig. 34. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; RRI (H_2, $p = 0.5$): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).

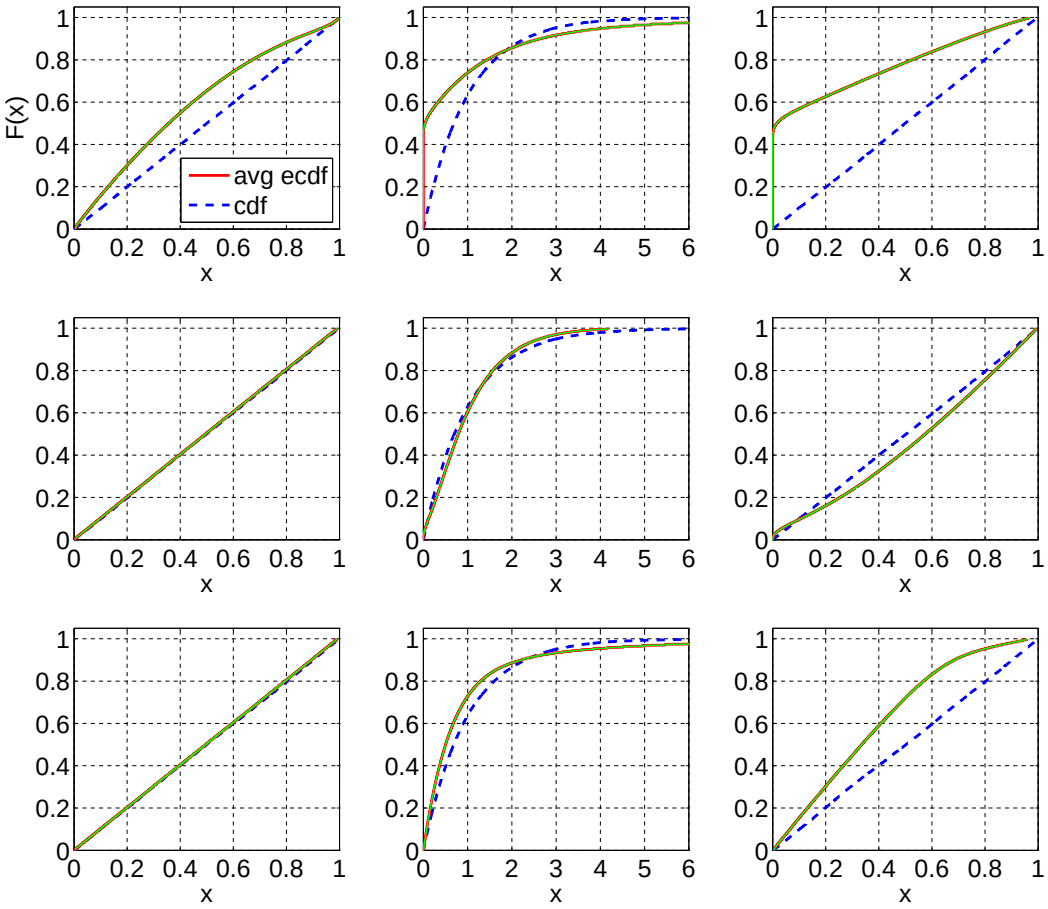
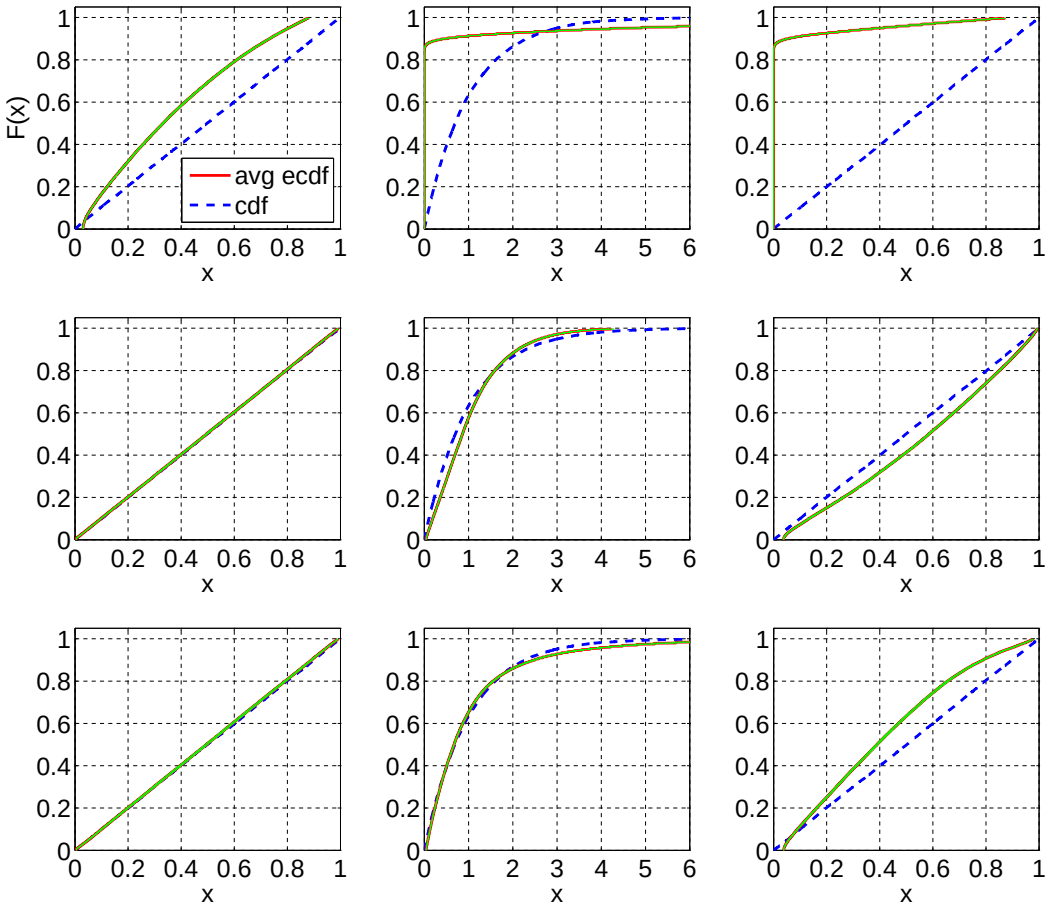


Fig. 35. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis; RRI (H_2, $p = 0.9$): Standard, Sort-Log, Durbin; CU, CU+Log, Lewis (based on $-log(F(X))$); CU+Log, Lewis (based on $-log(1 - F(X))$) (from left to right; top to bottom).



C. TESTS FOR GENERAL CASES

Table XVI. Tests for E_2 using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.44	0.59	1.08	1.39	0.44	0.45
E_k	$k = 2$	1.00	0.50	0.50	0.34	1.00	0.99	0.50	0.33
	$k = 4$	1.00	0.25	0.54	0.18	0.95	1.73	0.45	0.36
	$k = 6$	1.00	0.17	0.56	0.13	0.94	3.63	0.40	0.39
H_2	$c^2 = 1.25$	1.00	1.24	0.43	0.64	1.10	1.61	0.43	0.48
	$c^2 = 1.5$	1.00	1.48	0.41	0.69	1.11	1.87	0.42	0.51
	$c^2 = 2$	1.00	1.95	0.39	0.76	1.14	2.45	0.40	0.56
	$c^2 = 4$	1.00	3.77	0.34	0.92	1.16	4.86	0.37	0.64
	$c^2 = 10$	1.00	8.64	0.29	1.04	0.91	9.19	0.34	0.69
Z	$-$	1.00	0.95	0.48	0.40	1.02	1.45	0.49	0.35
LN	$(1, 0.25)$	1.00	0.25	0.54	0.16	0.95	3.32	0.42	0.37
	$(1, 1)$	1.00	0.97	0.46	0.43	1.04	1.36	0.48	0.37
	$(1, 4)$	1.00	3.45	0.35	0.92	1.11	3.33	0.37	0.61
	$(1, 10)$	1.00	6.76	0.29	1.36	1.07	5.02	0.29	0.94
RRI	$p = 0.1$	1.00	0.99	0.44	0.59	1.08	1.66	0.40	0.61
	$p = 0.5$	1.00	0.98	0.44	0.59	1.08	3.87	0.22	1.93
	$p = 0.9$	1.00	0.88	0.44	0.61	1.08	23.06	0.04	13.99
$EARMA$	0.25	1.00	0.99	0.44	0.59	1.08	1.38	0.44	0.45
	0.5	1.00	0.99	0.44	0.59	1.08	1.38	0.44	0.45
	1	1.00	0.97	0.44	0.59	1.08	1.38	0.44	0.45
	3	1.00	0.97	0.45	0.60	1.08	1.31	0.44	0.46
	5.25	1.00	0.90	0.45	0.58	1.08	1.39	0.43	0.47
mH_2	$m = 2$	1.00	2.35	0.39	0.74	1.12	2.77	0.41	0.53
	$m = 5$	1.00	1.32	0.43	0.65	1.10	1.67	0.43	0.49
	$m = 10$	1.00	1.11	0.44	0.62	1.09	1.48	0.43	0.47
	$m = 20$	1.00	1.03	0.44	0.60	1.08	1.42	0.44	0.46
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.34	0.92	1.17	5.52	0.33	0.83
	$p = 0.5$	1.00	3.43	0.34	0.93	1.16	10.44	0.18	2.30
	$p = 0.9$	1.00	2.21	0.34	0.95	1.17	37.66	0.04	16.01

Table XVII. Tests for E_2 using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	129	0.00 ± 0.0003	129	0.00 ± 0.0003	6681	0.20 ± 0.0042	2596	0.06 ± 0.0027
E_k	$k = 2$	9492	0.50 ± 0.0056	9492	0.50 ± 0.0056	9452	0.50 ± 0.0057	9500	0.49 ± 0.0057
	$k = 4$	155	0.00 ± 0.0003	155	0.00 ± 0.0003	6033	0.18 ± 0.0044	4100	0.11 ± 0.0034
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	388	0.01 ± 0.0005	7	0.00 ± 0.0001
H_2	$c^2 = 1.25$	17	0.00 ± 0.0001	17	0.00 ± 0.0001	5022	0.12 ± 0.0032	1181	0.03 ± 0.0016
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3514	0.07 ± 0.0024	539	0.01 ± 0.0008
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1486	0.03 ± 0.0013	129	0.00 ± 0.0004
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	43	0.00 ± 0.0002	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	8069	0.32 ± 0.0054	8069	0.32 ± 0.0054	9179	0.45 ± 0.0058	9286	0.46 ± 0.0058
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2810	0.06 ± 0.0025	425	0.01 ± 0.0006
	$(1, 1)$	3086	0.07 ± 0.0027	3086	0.07 ± 0.0027	8764	0.41 ± 0.0058	8424	0.37 ± 0.0058
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	120	0.00 ± 0.0003	3	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	135	0.00 ± 0.0003	135	0.00 ± 0.0003	417	0.01 ± 0.0004	24	0.00 ± 0.0001
	$p = 0.5$	164	0.00 ± 0.0004	164	0.00 ± 0.0004	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	3	0.00 ± 0.0000	3	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	108	0.00 ± 0.0002	108	0.00 ± 0.0002	6316	0.18 ± 0.0040	2552	0.06 ± 0.0027
	0.5	114	0.00 ± 0.0003	114	0.00 ± 0.0003	5871	0.16 ± 0.0039	2614	0.07 ± 0.0027
	1	135	0.00 ± 0.0003	135	0.00 ± 0.0003	5186	0.14 ± 0.0039	2597	0.07 ± 0.0028
	3	918	0.02 ± 0.0015	918	0.02 ± 0.0015	3161	0.09 ± 0.0035	3573	0.12 ± 0.0043
	5.25	432	0.01 ± 0.0007	432	0.01 ± 0.0007	3084	0.09 ± 0.0034	2347	0.07 ± 0.0032
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1756	0.03 ± 0.0016	289	0.01 ± 0.0007
	$m = 5$	23	0.00 ± 0.0001	23	0.00 ± 0.0001	3773	0.09 ± 0.0029	1179	0.03 ± 0.0015
	$m = 10$	63	0.00 ± 0.0002	63	0.00 ± 0.0002	4374	0.11 ± 0.0033	1684	0.04 ± 0.0020
	$m = 20$	96	0.00 ± 0.0002	96	0.00 ± 0.0002	4675	0.12 ± 0.0035	2070	0.05 ± 0.0024
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XVIII. Tests for E_2 using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.50	0.34	1.01	1.42	0.43	0.51	0.50	0.34	1.01	1.86	0.37	0.66
E_k	$k=2$	0.50	0.34	1.00	0.99	0.50	0.34	0.50	0.33	1.00	1.00	0.50	0.34
	$k=4$	0.50	0.33	1.00	0.61	0.59	0.19	0.50	0.33	0.99	0.52	0.62	0.17
	$k=6$	0.50	0.33	0.99	0.44	0.65	0.14	0.50	0.33	0.99	0.35	0.68	0.11
H_2	$c^2=1.25$	0.50	0.34	1.01	1.35	0.43	0.50	0.50	0.34	1.02	2.35	0.34	0.72
	$c^2=1.5$	0.50	0.34	1.01	1.29	0.44	0.49	0.50	0.34	1.02	2.82	0.32	0.78
	$c^2=2$	0.50	0.34	1.00	1.21	0.46	0.47	0.50	0.35	1.03	3.72	0.28	0.87
	$c^2=4$	0.50	0.33	1.00	1.04	0.49	0.39	0.50	0.35	1.06	6.52	0.22	1.06
	$c^2=10$	0.50	0.33	1.00	0.89	0.52	0.32	0.50	0.37	1.09	9.82	0.20	0.98
Z	$-$	0.50	0.34	1.00	1.20	0.48	0.36	0.50	0.34	1.01	1.90	0.45	0.40
LN	$(1, 0.25)$	0.50	0.33	0.99	0.44	0.64	0.17	0.50	0.33	0.99	0.55	0.63	0.13
	$(1,1)$	0.50	0.33	1.00	0.75	0.53	0.34	0.50	0.34	1.01	2.07	0.41	0.42
	$(1,4)$	0.50	0.33	1.00	0.84	0.51	0.41	0.50	0.35	1.04	5.00	0.24	1.04
	$(1,10)$	0.50	0.33	1.00	0.80	0.52	0.40	0.50	0.36	1.07	7.00	0.18	1.64
RRI	$p=0.1$	0.50	0.34	1.01	1.42	0.43	0.51	0.50	0.34	1.02	1.86	0.38	0.66
	$p=0.5$	0.50	0.34	1.03	1.43	0.43	0.52	0.50	0.35	1.04	1.87	0.38	0.66
	$p=0.9$	0.50	0.39	1.11	1.50	0.47	0.51	0.50	0.41	1.15	2.06	0.42	0.66
$EARMA$	0.25	0.50	0.34	1.01	1.42	0.43	0.51	0.50	0.34	1.02	1.85	0.38	0.66
	0.5	0.50	0.34	1.01	1.42	0.43	0.51	0.50	0.34	1.02	1.84	0.38	0.66
	1	0.50	0.34	1.01	1.44	0.43	0.52	0.50	0.35	1.03	1.76	0.38	0.65
	3	0.50	0.37	1.07	1.47	0.44	0.51	0.50	0.37	1.09	1.63	0.38	0.66
	5.25	0.50	0.35	1.02	1.59	0.43	0.52	0.50	0.38	1.09	1.44	0.39	0.63
mH_2	$m=2$	0.50	0.34	1.01	1.22	0.46	0.46	0.50	0.36	1.04	4.18	0.29	0.81
	$m=5$	0.50	0.34	1.01	1.35	0.44	0.50	0.50	0.35	1.03	2.43	0.34	0.72
	$m=10$	0.50	0.34	1.01	1.39	0.43	0.51	0.50	0.35	1.03	2.05	0.36	0.68
	$m=20$	0.50	0.34	1.01	1.40	0.43	0.51	0.50	0.34	1.02	1.92	0.37	0.67
$RRI(H_2)$	$p=0.1$	0.50	0.34	1.01	1.06	0.49	0.39	0.50	0.36	1.06	6.44	0.22	1.07
	$p=0.5$	0.50	0.34	1.02	1.14	0.49	0.39	0.50	0.39	1.12	6.03	0.23	1.10
	$p=0.9$	0.50	0.38	1.11	1.72	0.53	0.40	0.50	0.51	1.28	4.64	0.31	1.13

Table XIX. Tests for E_2 using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	8603	0.35 ± 0.0052	2644	0.05 ± 0.0019	751	0.02 ± 0.0010	7421	0.24 ± 0.0046	57	0.00 ± 0.0002	0	0.00 ± 0.0000
E_k	$k = 2$	9517	0.50 ± 0.0056	9534	0.50 ± 0.0057	9499	0.50 ± 0.0056	9497	0.50 ± 0.0057	9505	0.50 ± 0.0057	9506	0.50 ± 0.0057
	$k = 4$	9941	0.71 ± 0.0050	954	0.02 ± 0.0008	59	0.00 ± 0.0002	9977	0.77 ± 0.0046	69	0.00 ± 0.0002	0	0.00 ± 0.0000
	$k = 6$	9991	0.82 ± 0.0040	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9999	0.88 ± 0.0033	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	8705	0.37 ± 0.0053	3157	0.06 ± 0.0021	1247	0.03 ± 0.0013	6106	0.17 ± 0.0040	7	0.00 ± 0.0001	0	0.00 ± 0.0000
	$c^2 = 1.5$	8954	0.39 ± 0.0055	3847	0.08 ± 0.0023	1944	0.04 ± 0.0016	4905	0.12 ± 0.0033	1	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	9101	0.42 ± 0.0055	5259	0.11 ± 0.0028	3638	0.08 ± 0.0025	3336	0.07 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	9483	0.49 ± 0.0056	8661	0.27 ± 0.0042	8359	0.26 ± 0.0042	752	0.01 ± 0.0009	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	9702	0.55 ± 0.0056	8907	0.38 ± 0.0052	7994	0.31 ± 0.0053	67	0.00 ± 0.0004	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	–	9095	0.42 ± 0.0056	8998	0.43 ± 0.0058	8121	0.35 ± 0.0058	7152	0.28 ± 0.0054	7175	0.28 ± 0.0054	4466	0.15 ± 0.0046
LN	$(1, 0.25)$	9994	0.82 ± 0.0041	47	0.00 ± 0.0002	0	0.00 ± 0.0000	9973	0.75 ± 0.0048	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9863	0.63 ± 0.0054	7695	0.26 ± 0.0047	4680	0.10 ± 0.0029	6809	0.22 ± 0.0045	3027	0.09 ± 0.0033	331	0.01 ± 0.0009
	$(1, 4)$	9790	0.59 ± 0.0055	5567	0.11 ± 0.0025	3465	0.06 ± 0.0015	1507	0.03 ± 0.0014	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	9831	0.61 ± 0.0055	4366	0.08 ± 0.0020	1784	0.03 ± 0.0009	408	0.01 ± 0.0006	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	7854	0.28 ± 0.0050	2481	0.05 ± 0.0020	850	0.02 ± 0.0012	6455	0.19 ± 0.0042	96	0.00 ± 0.0003	5	0.00 ± 0.0000
	$p = 0.5$	3572	0.08 ± 0.0026	1631	0.03 ± 0.0016	845	0.02 ± 0.0012	2429	0.05 ± 0.0020	241	0.00 ± 0.0005	45	0.00 ± 0.0002
	$p = 0.9$	253	0.01 ± 0.0006	47	0.00 ± 0.0001	5	0.00 ± 0.0000	142	0.00 ± 0.0004	31	0.00 ± 0.0001	3	0.00 ± 0.0000
$EARMA$	0.25	8303	0.32 ± 0.0052	2723	0.06 ± 0.0022	959	0.02 ± 0.0013	5494	0.15 ± 0.0037	70	0.00 ± 0.0002	1	0.00 ± 0.0000
	0.5	7782	0.28 ± 0.0049	3016	0.07 ± 0.0025	1236	0.03 ± 0.0017	4064	0.10 ± 0.0029	89	0.00 ± 0.0002	0	0.00 ± 0.0000
	1	7347	0.25 ± 0.0048	3187	0.08 ± 0.0032	1542	0.04 ± 0.0024	2670	0.06 ± 0.0022	147	0.00 ± 0.0003	6	0.00 ± 0.0001
	3	670	0.01 ± 0.0009	3570	0.11 ± 0.0040	3025	0.10 ± 0.0041	508	0.01 ± 0.0008	1071	0.03 ± 0.0019	585	0.02 ± 0.0018
	5.25	3562	0.09 ± 0.0030	3119	0.10 ± 0.0037	2565	0.09 ± 0.0038	374	0.01 ± 0.0006	514	0.01 ± 0.0007	339	0.01 ± 0.0007
mH_2	$m = 2$	8132	0.32 ± 0.0052	5731	0.15 ± 0.0037	4202	0.11 ± 0.0036	1248	0.02 ± 0.0013	2	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	7135	0.25 ± 0.0049	3718	0.10 ± 0.0032	2180	0.06 ± 0.0028	2356	0.05 ± 0.0022	17	0.00 ± 0.0001	0	0.00 ± 0.0000
	$m = 10$	7244	0.26 ± 0.0050	3396	0.08 ± 0.0030	1864	0.05 ± 0.0025	3581	0.09 ± 0.0031	56	0.00 ± 0.0002	0	0.00 ± 0.0000
	$m = 20$	7705	0.29 ± 0.0052	3258	0.08 ± 0.0030	1635	0.04 ± 0.0023	4884	0.14 ± 0.0038	78	0.00 ± 0.0002	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	9083	0.42 ± 0.0055	8064	0.23 ± 0.0041	7698	0.22 ± 0.0040	557	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	5377	0.15 ± 0.0038	3817	0.08 ± 0.0025	3364	0.07 ± 0.0022	151	0.00 ± 0.0003	1	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	584	0.01 ± 0.0011	56	0.00 ± 0.0002	6	0.00 ± 0.0001	23	0.00 ± 0.0002	13	0.00 ± 0.0001	1	0.00 ± 0.0000

Table XX. Tests for E_4 using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	1.00	1.00	0.41	0.86	1.36	2.19	0.34	0.80
E_k	$k = 2$	1.00	0.50	0.46	0.55	1.14	1.34	0.44	0.44
	$k = 4$	1.00	0.25	0.50	0.34	1.00	0.99	0.50	0.33
	$k = 6$	1.00	0.17	0.52	0.24	0.95	1.17	0.48	0.35
H_2	$c^2 = 1.25$	1.00	1.24	0.39	0.95	1.41	2.63	0.33	0.87
	$c^2 = 1.5$	1.00	1.48	0.37	1.02	1.45	3.09	0.32	0.92
	$c^2 = 2$	1.00	1.95	0.35	1.15	1.49	3.94	0.30	1.01
	$c^2 = 4$	1.00	3.77	0.30	1.44	1.37	6.94	0.27	1.17
	$c^2 = 10$	1.00	8.64	0.24	1.73	0.81	10.19	0.26	1.26
Z	–	1.00	0.95	0.44	0.63	1.17	1.96	0.42	0.51
LN	$(1, 0.25)$	1.00	0.25	0.50	0.30	0.99	1.09	0.49	0.34
	$(1, 1)$	1.00	0.97	0.41	0.73	1.25	2.35	0.40	0.53
	$(1, 4)$	1.00	3.45	0.31	1.42	1.38	4.77	0.26	1.21
	$(1, 10)$	1.00	6.76	0.26	2.02	1.28	6.55	0.20	1.85
RRI	$p = 0.1$	1.00	0.99	0.41	0.86	1.36	2.55	0.31	1.00
	$p = 0.5$	1.00	0.98	0.41	0.87	1.36	5.51	0.17	2.64
	$p = 0.9$	1.00	0.88	0.41	0.94	1.35	30.17	0.03	18.05
$EARMA$	0.25	1.00	0.99	0.41	0.86	1.36	2.18	0.34	0.80
	0.5	1.00	0.99	0.41	0.86	1.36	2.17	0.34	0.80
	1	1.00	0.97	0.41	0.86	1.36	2.15	0.34	0.80
	3	1.00	0.97	0.41	0.89	1.36	2.07	0.34	0.81
	5.25	1.00	0.90	0.41	0.88	1.36	2.13	0.34	0.83
mH_2	$m = 2$	1.00	2.35	0.35	1.12	1.32	3.86	0.31	0.96
	$m = 5$	1.00	1.32	0.39	0.96	1.38	2.66	0.33	0.87
	$m = 10$	1.00	1.11	0.40	0.91	1.38	2.38	0.33	0.83
	$m = 20$	1.00	1.03	0.40	0.89	1.37	2.26	0.34	0.82
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.30	1.44	1.35	7.70	0.25	1.41
	$p = 0.5$	1.00	3.43	0.29	1.46	1.36	14.28	0.14	3.37
	$p = 0.9$	1.00	2.21	0.29	1.58	1.37	49.48	0.03	22.03

Table XXI. Tests for E_4 using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	14	0.00 ± 0.0001	0	0.00 ± 0.0000
E_k	$k = 2$	372	0.01 ± 0.0005	372	0.01 ± 0.0005	7271	0.22 ± 0.0043	3242	0.08 ± 0.0031
	$k = 4$	9486	0.49 ± 0.0056	9486	0.49 ± 0.0056	9476	0.49 ± 0.0057	9477	0.50 ± 0.0057
	$k = 6$	5820	0.12 ± 0.0028	5820	0.12 ± 0.0028	8589	0.38 ± 0.0058	8876	0.41 ± 0.0058
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	10	0.00 ± 0.0001	10	0.00 ± 0.0001	4579	0.10 ± 0.0026	878	0.02 ± 0.0012
LN	$(1, 0.25)$	8804	0.32 ± 0.0047	8804	0.32 ± 0.0047	9205	0.46 ± 0.0058	9323	0.46 ± 0.0057
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2576	0.05 ± 0.0016	157	0.00 ± 0.0005
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8	0.00 ± 0.0001	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5	0.00 ± 0.0001	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9	0.00 ± 0.0001	0	0.00 ± 0.0000
	3	1	0.00 ± 0.0000	1	0.00 ± 0.0000	156	0.00 ± 0.0004	43	0.00 ± 0.0003
	5.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	73	0.00 ± 0.0002	1	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXII. Tests for E_4 using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.02	1.87	0.37	0.73	0.50	0.34	1.03	3.04	0.28	1.14
E_k	$k=2$	0.50	0.34	1.01	1.47	0.42	0.53	0.50	0.34	1.01	1.79	0.38	0.63
	$k=4$	0.50	0.33	1.00	0.99	0.50	0.34	0.50	0.34	1.00	0.99	0.50	0.34
	$k=6$	0.50	0.33	1.00	0.75	0.56	0.24	0.50	0.33	1.00	0.70	0.57	0.23
H_2	$c^2=1.25$	0.50	0.34	1.01	1.77	0.38	0.70	0.50	0.34	1.04	3.79	0.25	1.28
	$c^2=1.5$	0.50	0.34	1.01	1.68	0.39	0.67	0.50	0.35	1.05	4.46	0.23	1.42
	$c^2=2$	0.50	0.34	1.01	1.57	0.40	0.62	0.50	0.35	1.06	5.53	0.20	1.65
	$c^2=4$	0.50	0.34	1.01	1.33	0.44	0.52	0.50	0.36	1.09	8.39	0.15	2.11
	$c^2=10$	0.50	0.34	1.00	1.12	0.47	0.42	0.49	0.37	1.14	11.28	0.14	1.85
Z	–	0.50	0.34	1.01	1.74	0.40	0.56	0.50	0.34	1.02	2.87	0.34	0.73
LN	$(1, 0.25)$	0.50	0.33	1.00	0.71	0.55	0.29	0.50	0.34	1.00	1.13	0.50	0.28
	$(1, 1)$	0.50	0.34	1.00	1.06	0.47	0.49	0.50	0.34	1.03	3.62	0.29	0.88
	$(1, 4)$	0.50	0.34	1.00	1.06	0.46	0.53	0.50	0.35	1.08	6.56	0.17	2.06
	$(1, 10)$	0.50	0.34	1.00	0.97	0.48	0.50	0.50	0.36	1.11	8.48	0.13	3.08
RRI	$p=0.1$	0.50	0.34	1.02	1.88	0.37	0.73	0.50	0.34	1.04	3.04	0.28	1.14
	$p=0.5$	0.50	0.35	1.04	1.95	0.37	0.73	0.50	0.36	1.08	3.17	0.29	1.15
	$p=0.9$	0.50	0.41	1.17	2.46	0.41	0.74	0.50	0.46	1.29	4.41	0.33	1.17
$EARMA$	0.25	0.50	0.34	1.02	1.88	0.37	0.73	0.50	0.35	1.04	3.03	0.28	1.14
	0.5	0.50	0.34	1.02	1.89	0.37	0.73	0.50	0.35	1.05	3.00	0.28	1.14
	1	0.50	0.34	1.02	1.91	0.37	0.73	0.50	0.36	1.06	2.86	0.28	1.13
	3	0.50	0.38	1.10	2.09	0.38	0.73	0.50	0.39	1.15	2.59	0.29	1.15
	5.25	0.50	0.35	1.04	2.19	0.37	0.75	0.50	0.42	1.16	2.31	0.30	1.10
mH_2	$m=2$	0.50	0.34	1.01	1.59	0.40	0.63	0.50	0.36	1.07	5.58	0.21	1.50
	$m=5$	0.50	0.34	1.02	1.78	0.38	0.70	0.50	0.36	1.06	3.81	0.25	1.28
	$m=10$	0.50	0.34	1.02	1.84	0.37	0.72	0.50	0.36	1.05	3.34	0.27	1.20
	$m=20$	0.50	0.34	1.02	1.86	0.37	0.72	0.50	0.35	1.04	3.14	0.27	1.17
$RRI(H_2)$	$p=0.1$	0.50	0.34	1.01	1.34	0.44	0.52	0.50	0.37	1.10	8.38	0.15	2.11
	$p=0.5$	0.50	0.34	1.03	1.45	0.44	0.52	0.50	0.41	1.18	8.30	0.16	2.16
	$p=0.9$	0.50	0.39	1.14	2.35	0.48	0.53	0.50	0.59	1.49	8.53	0.23	2.12

Table XXIII. Tests for E_4 using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	7407	0.24 ± 0.0046	3	0.00 ± 0.0000	0	0.00 ± 0.0000	4659	0.11 ± 0.0030	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k=2$	8405	0.33 ± 0.0052	1874	0.04 ± 0.0015	410	0.01 ± 0.0007	7582	0.26 ± 0.0047	114	0.00 ± 0.0003	5	0.00 ± 0.0001
	$k=4$	9532	0.50 ± 0.0056	9503	0.50 ± 0.0057	9444	0.49 ± 0.0057	9503	0.50 ± 0.0057	9476	0.50 ± 0.0057	9485	0.50 ± 0.0056
	$k=6$	9864	0.63 ± 0.0054	6173	0.16 ± 0.0036	2922	0.06 ± 0.0023	9888	0.65 ± 0.0053	4271	0.09 ± 0.0025	1174	0.02 ± 0.0013
H_2	$c^2=1.25$	7744	0.27 ± 0.0047	8	0.00 ± 0.0001	0	0.00 ± 0.0000	3292	0.07 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=1.5$	7960	0.29 ± 0.0049	18	0.00 ± 0.0001	1	0.00 ± 0.0000	2163	0.04 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=2$	8306	0.32 ± 0.0051	94	0.00 ± 0.0002	17	0.00 ± 0.0001	1085	0.02 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=4$	8920	0.39 ± 0.0054	1934	0.03 ± 0.0013	952	0.02 ± 0.0009	79	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=10$	9288	0.45 ± 0.0056	7962	0.24 ± 0.0042	6961	0.20 ± 0.0041	10	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	–	7660	0.27 ± 0.0048	926	0.02 ± 0.0010	105	0.00 ± 0.0003	4111	0.11 ± 0.0034	3	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	9859	0.65 ± 0.0054	7311	0.25 ± 0.0049	3597	0.09 ± 0.0029	9195	0.45 ± 0.0057	8697	0.31 ± 0.0047	8157	0.26 ± 0.0043
	$(1, 1)$	9420	0.48 ± 0.0056	3065	0.06 ± 0.0018	2072	0.04 ± 0.0015	3310	0.07 ± 0.0025	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	9453	0.49 ± 0.0056	546	0.01 ± 0.0006	320	0.01 ± 0.0004	382	0.01 ± 0.0006	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	9664	0.54 ± 0.0056	723	0.01 ± 0.0006	385	0.01 ± 0.0004	63	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p=0.1$	6469	0.19 ± 0.0041	4	0.00 ± 0.0000	2	0.00 ± 0.0000	3654	0.08 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.5$	2228	0.04 ± 0.0018	71	0.00 ± 0.0002	13	0.00 ± 0.0002	867	0.02 ± 0.0009	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.9$	99	0.00 ± 0.0003	14	0.00 ± 0.0001	4	0.00 ± 0.0000	27	0.00 ± 0.0001	3	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	7065	0.23 ± 0.0044	9	0.00 ± 0.0001	1	0.00 ± 0.0000	2862	0.06 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	6501	0.19 ± 0.0042	21	0.00 ± 0.0001	2	0.00 ± 0.0000	1738	0.03 ± 0.0015	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	6165	0.18 ± 0.0041	85	0.00 ± 0.0004	15	0.00 ± 0.0002	948	0.02 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	309	0.01 ± 0.0005	546	0.01 ± 0.0011	227	0.01 ± 0.0009	142	0.00 ± 0.0003	5	0.00 ± 0.0000	0	0.00 ± 0.0000
	5.25	2716	0.06 ± 0.0023	985	0.03 ± 0.0019	621	0.02 ± 0.0017	78	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
mH_2	$m=2$	7163	0.23 ± 0.0046	302	0.01 ± 0.0005	72	0.00 ± 0.0003	264	0.00 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m=5$	5975	0.18 ± 0.0041	143	0.00 ± 0.0003	26	0.00 ± 0.0001	859	0.02 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m=10$	6047	0.18 ± 0.0042	101	0.00 ± 0.0003	18	0.00 ± 0.0001	1679	0.03 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m=20$	6524	0.21 ± 0.0044	77	0.00 ± 0.0003	11	0.00 ± 0.0001	2660	0.06 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p=0.1$	8309	0.32 ± 0.0051	1875	0.03 ± 0.0014	1020	0.02 ± 0.0011	50	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.5$	4121	0.10 ± 0.0030	1376	0.03 ± 0.0013	879	0.02 ± 0.0010	20	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.9$	317	0.01 ± 0.0007	34	0.00 ± 0.0001	6	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXIV. Tests for E_6 using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.40	1.01	1.66	2.72	0.29	1.11
E_k	$k = 2$	1.00	0.50	0.44	0.68	1.31	1.72	0.39	0.60
	$k = 4$	1.00	0.25	0.48	0.44	1.08	1.12	0.48	0.37
	$k = 6$	1.00	0.17	0.50	0.33	1.00	0.99	0.50	0.34
H_2	$c^2 = 1.25$	1.00	1.24	0.38	1.11	1.72	3.22	0.27	1.20
	$c^2 = 1.5$	1.00	1.48	0.36	1.21	1.75	3.71	0.26	1.28
	$c^2 = 2$	1.00	1.95	0.33	1.35	1.75	4.59	0.25	1.39
	$c^2 = 4$	1.00	3.77	0.28	1.74	1.42	7.64	0.23	1.60
	$c^2 = 10$	1.00	8.64	0.23	2.15	0.79	10.04	0.21	1.72
Z	$-$	1.00	0.95	0.42	0.78	1.33	2.22	0.37	0.69
LN	$(1, 0.25)$	1.00	0.25	0.48	0.42	1.07	1.16	0.49	0.36
	$(1, 1)$	1.00	0.97	0.39	0.92	1.47	3.01	0.34	0.77
	$(1, 4)$	1.00	3.45	0.30	1.69	1.58	5.37	0.21	1.72
	$(1, 10)$	1.00	6.76	0.24	2.34	1.44	7.38	0.16	2.57
RRI	$p = 0.1$	1.00	0.99	0.40	1.01	1.65	3.14	0.26	1.35
	$p = 0.5$	1.00	0.98	0.40	1.02	1.66	6.58	0.14	3.28
	$p = 0.9$	1.00	0.88	0.40	1.13	1.65	34.80	0.03	21.76
$EARMA$	0.25	1.00	0.99	0.40	1.01	1.66	2.70	0.29	1.11
	0.5	1.00	0.99	0.40	1.02	1.65	2.70	0.29	1.11
	1	1.00	0.97	0.40	1.02	1.65	2.68	0.29	1.11
	3	1.00	0.97	0.40	1.05	1.65	2.59	0.29	1.13
	5.25	1.00	0.90	0.40	1.05	1.64	2.66	0.28	1.15
mH_2	$m = 2$	1.00	2.35	0.34	1.33	1.48	4.33	0.26	1.32
	$m = 5$	1.00	1.32	0.37	1.13	1.62	3.25	0.27	1.20
	$m = 10$	1.00	1.11	0.39	1.07	1.65	2.95	0.28	1.16
	$m = 20$	1.00	1.03	0.39	1.05	1.65	2.82	0.28	1.14
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.28	1.74	1.40	8.34	0.20	1.90
	$p = 0.5$	1.00	3.43	0.28	1.77	1.41	15.50	0.11	4.27
	$p = 0.9$	1.00	2.21	0.28	2.00	1.43	54.97	0.02	27.23

Table XXV. Tests for E_6 using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1307	0.02 ± 0.0009	23	0.00 ± 0.0001
	$k = 4$	5517	0.12 ± 0.0030	5517	0.12 ± 0.0030	8771	0.39 ± 0.0056	8190	0.36 ± 0.0058
	$k = 6$	9512	0.50 ± 0.0057	9512	0.50 ± 0.0057	9472	0.50 ± 0.0057	9483	0.50 ± 0.0057
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	185	0.01 ± 0.0003	0	0.00 ± 0.0000
LN	$(1, 0.25)$	6309	0.18 ± 0.0042	6309	0.18 ± 0.0042	9066	0.44 ± 0.0058	9033	0.43 ± 0.0058
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	22	0.00 ± 0.0001	0	0.00 ± 0.0000
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2	0.00 ± 0.0000	0	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXVI. Tests for E_6 using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.02	2.10	0.34	0.86	0.50	0.34	1.05	3.77	0.24	1.48
E_k	$k=2$	0.50	0.34	1.01	1.78	0.38	0.67	0.50	0.34	1.02	2.36	0.33	0.87
	$k=4$	0.50	0.34	1.00	1.28	0.45	0.45	0.50	0.34	1.01	1.39	0.43	0.48
	$k=6$	0.50	0.34	1.00	0.99	0.50	0.33	0.50	0.33	1.00	1.00	0.50	0.33
H_2	$c^2=1.25$	0.50	0.34	1.02	1.98	0.35	0.82	0.50	0.35	1.06	4.51	0.21	1.67
	$c^2=1.5$	0.50	0.34	1.02	1.87	0.36	0.78	0.50	0.35	1.06	5.14	0.19	1.86
	$c^2=2$	0.50	0.34	1.02	1.74	0.38	0.72	0.50	0.36	1.08	6.12	0.17	2.17
	$c^2=4$	0.50	0.34	1.01	1.45	0.42	0.59	0.49	0.36	1.10	9.01	0.13	2.78
	$c^2=10$	0.50	0.34	1.00	1.23	0.45	0.49	0.50	0.37	1.16	11.65	0.12	2.52
Z	–	0.50	0.34	1.02	2.05	0.36	0.69	0.50	0.34	1.03	3.29	0.29	0.99
LN	$(1, 0.25)$	0.50	0.33	1.00	0.92	0.50	0.38	0.50	0.34	1.01	1.64	0.43	0.43
	$(1, 1)$	0.50	0.34	1.01	1.25	0.43	0.58	0.50	0.35	1.04	4.42	0.24	1.27
	$(1, 4)$	0.50	0.34	1.01	1.19	0.44	0.60	0.50	0.35	1.09	7.10	0.14	2.71
	$(1, 10)$	0.50	0.34	1.01	1.07	0.47	0.55	0.49	0.36	1.15	9.02	0.11	3.91
RRI	$p=0.1$	0.50	0.34	1.02	2.12	0.34	0.86	0.50	0.35	1.05	3.78	0.24	1.48
	$p=0.5$	0.50	0.35	1.05	2.25	0.34	0.86	0.50	0.37	1.11	4.08	0.25	1.49
	$p=0.9$	0.50	0.43	1.22	3.24	0.38	0.87	0.50	0.49	1.39	6.55	0.29	1.54
$EARMA$	0.25	0.50	0.34	1.02	2.11	0.34	0.86	0.50	0.35	1.06	3.76	0.24	1.48
	0.5	0.50	0.34	1.02	2.12	0.34	0.86	0.50	0.36	1.07	3.74	0.24	1.47
	1	0.50	0.34	1.03	2.16	0.34	0.86	0.50	0.36	1.09	3.56	0.24	1.46
	3	0.50	0.39	1.12	2.50	0.35	0.86	0.50	0.40	1.20	3.17	0.24	1.49
	5.25	0.50	0.35	1.05	2.53	0.34	0.89	0.50	0.43	1.21	2.91	0.26	1.44
mH_2	$m=2$	0.50	0.34	1.02	1.76	0.38	0.72	0.49	0.37	1.08	6.10	0.18	1.98
	$m=5$	0.50	0.34	1.02	2.00	0.35	0.81	0.50	0.36	1.08	4.55	0.21	1.68
	$m=10$	0.50	0.34	1.02	2.06	0.35	0.84	0.50	0.36	1.07	4.10	0.23	1.57
	$m=20$	0.50	0.34	1.02	2.08	0.34	0.85	0.50	0.35	1.06	3.89	0.23	1.52
$RRI(H_2)$	$p=0.1$	0.50	0.34	1.01	1.47	0.42	0.59	0.50	0.37	1.14	8.91	0.13	2.76
	$p=0.5$	0.50	0.34	1.03	1.59	0.42	0.59	0.50	0.41	1.22	9.36	0.14	2.83
	$p=0.9$	0.50	0.40	1.16	2.57	0.46	0.60	0.50	0.62	1.65	11.62	0.20	2.76

Table XXVII. Tests for E_6 using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	6857	0.21 ± 0.0042	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3329	0.07 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k=2$	7571	0.26 ± 0.0047	36	0.00 ± 0.0001	0	0.00 ± 0.0000	6112	0.17 ± 0.0039	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k=4$	8931	0.39 ± 0.0054	6181	0.17 ± 0.0041	3697	0.09 ± 0.0032	8610	0.36 ± 0.0053	4152	0.09 ± 0.0028	1562	0.03 ± 0.0017
	$k=6$	9513	0.50 ± 0.0057	9523	0.50 ± 0.0056	9469	0.50 ± 0.0057	9483	0.50 ± 0.0057	9479	0.50 ± 0.0057	9483	0.50 ± 0.0057
H_2	$c^2=1.25$	7276	0.23 ± 0.0044	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2053	0.04 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=1.5$	7502	0.25 ± 0.0046	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1116	0.02 ± 0.0012	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=2$	7911	0.28 ± 0.0049	2	0.00 ± 0.0000	0	0.00 ± 0.0000	433	0.01 ± 0.0006	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=4$	8617	0.35 ± 0.0053	231	0.01 ± 0.0004	60	0.00 ± 0.0002	14	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2=10$	9058	0.41 ± 0.0055	4057	0.08 ± 0.0023	2482	0.05 ± 0.0019	4	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	–	6853	0.21 ± 0.0043	13	0.00 ± 0.0001	0	0.00 ± 0.0000	2718	0.06 ± 0.0025	0	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	9669	0.54 ± 0.0056	9124	0.37 ± 0.0051	8848	0.32 ± 0.0049	7940	0.30 ± 0.0051	4566	0.13 ± 0.0039	1223	0.03 ± 0.0018
	$(1, 1)$	9043	0.41 ± 0.0055	208	0.01 ± 0.0004	78	0.00 ± 0.0002	1895	0.04 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	9229	0.44 ± 0.0055	35	0.00 ± 0.0001	15	0.00 ± 0.0001	114	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	9535	0.50 ± 0.0056	113	0.00 ± 0.0002	71	0.00 ± 0.0002	15	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p=0.1$	5862	0.16 ± 0.0038	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2526	0.05 ± 0.0019	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.5$	1760	0.03 ± 0.0015	6	0.00 ± 0.0001	0	0.00 ± 0.0000	467	0.01 ± 0.0006	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.9$	61	0.00 ± 0.0002	5	0.00 ± 0.0001	4	0.00 ± 0.0000	8	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	6563	0.19 ± 0.0041	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1910	0.04 ± 0.0015	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	5974	0.17 ± 0.0039	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1077	0.02 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	5642	0.15 ± 0.0038	6	0.00 ± 0.0001	0	0.00 ± 0.0000	522	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	195	0.00 ± 0.0004	100	0.00 ± 0.0004	36	0.00 ± 0.0003	63	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	5.25	2400	0.05 ± 0.0021	399	0.01 ± 0.0012	237	0.01 ± 0.0012	41	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
mH_2	$m=2$	6690	0.21 ± 0.0043	19	0.00 ± 0.0001	3	0.00 ± 0.0000	94	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m=5$	5480	0.15 ± 0.0038	3	0.00 ± 0.0000	1	0.00 ± 0.0000	476	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m=10$	5608	0.16 ± 0.0039	3	0.00 ± 0.0000	0	0.00 ± 0.0000	1009	0.02 ± 0.0012	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m=20$	6011	0.18 ± 0.0041	2	0.00 ± 0.0000	0	0.00 ± 0.0000	1826	0.04 ± 0.0016	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p=0.1$	7925	0.29 ± 0.0049	262	0.01 ± 0.0005	99	0.00 ± 0.0002	10	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.5$	3608	0.08 ± 0.0027	473	0.01 ± 0.0007	242	0.00 ± 0.0005	4	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p=0.9$	235	0.00 ± 0.0006	31	0.00 ± 0.0001	4	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXVIII. Tests for $H_2(c^2 = 1.25)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.51	0.31	1.01	1.01	0.50	0.34
E_k	$k = 2$	1.00	0.50	0.57	0.15	1.03	2.02	0.44	0.37
	$k = 4$	1.00	0.25	0.61	0.08	1.05	7.62	0.34	0.41
	$k = 6$	1.00	0.17	0.62	0.05	1.05	14.85	0.28	0.43
H_2	$c^2 = 1.25$	1.00	1.24	0.50	0.33	1.00	1.00	0.50	0.34
	$c^2 = 1.5$	1.00	1.48	0.49	0.36	0.99	1.01	0.50	0.34
	$c^2 = 2$	1.00	1.95	0.47	0.39	0.98	1.08	0.49	0.35
	$c^2 = 4$	1.00	3.77	0.43	0.45	0.94	1.68	0.46	0.38
	$c^2 = 10$	1.00	8.64	0.39	0.48	0.89	3.89	0.44	0.40
Z	$-$	1.00	0.95	0.55	0.19	1.02	1.48	0.46	0.36
LN	$(1, 0.25)$	1.00	0.25	0.61	0.06	1.05	15.30	0.31	0.41
	$(1, 1)$	1.00	0.97	0.54	0.18	1.01	2.47	0.45	0.36
	$(1, 4)$	1.00	3.45	0.44	0.43	0.95	1.46	0.47	0.37
	$(1, 10)$	1.00	6.76	0.37	0.67	0.89	2.29	0.43	0.43
RRI	$p = 0.1$	1.00	0.99	0.51	0.31	1.01	1.23	0.45	0.48
	$p = 0.5$	1.00	0.98	0.51	0.31	1.01	3.04	0.25	1.68
	$p = 0.9$	1.00	0.88	0.51	0.31	1.01	19.05	0.05	12.32
$EARMA$	0.25	1.00	0.99	0.51	0.31	1.01	1.01	0.50	0.34
	0.5	1.00	0.99	0.51	0.31	1.01	1.01	0.50	0.34
	1	1.00	0.97	0.51	0.31	1.01	1.02	0.50	0.34
	3	1.00	0.97	0.51	0.31	1.01	1.05	0.50	0.34
	5.25	1.00	0.90	0.52	0.30	1.01	1.09	0.48	0.35
mH_2	$m = 2$	1.00	2.35	0.47	0.38	0.98	1.17	0.49	0.35
	$m = 5$	1.00	1.32	0.50	0.34	1.00	1.01	0.50	0.34
	$m = 10$	1.00	1.11	0.51	0.32	1.00	1.00	0.50	0.34
	$m = 20$	1.00	1.03	0.51	0.31	1.01	1.00	0.50	0.34
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.43	0.45	0.95	2.00	0.42	0.53
	$p = 0.5$	1.00	3.43	0.43	0.45	0.94	4.46	0.23	1.76
	$p = 0.9$	1.00	2.21	0.43	0.44	0.95	23.19	0.05	12.96

Table XXIX. Tests for $H_2(c^2 = 1.25)$ using $F(X)$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	8839	0.42 ± 0.0059	8839	0.42 ± 0.0059	9615	0.52 ± 0.0056	9491	0.50 ± 0.0057
E_k	$k = 2$	1	0.00 ± 0.0000	1	0.00 ± 0.0000	7605	0.27 ± 0.0052	1484	0.03 ± 0.0016
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	23	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9534	0.50 ± 0.0056	9534	0.50 ± 0.0056	9506	0.50 ± 0.0056	9546	0.50 ± 0.0056
	$c^2 = 1.5$	9037	0.44 ± 0.0058	9037	0.44 ± 0.0058	9351	0.48 ± 0.0058	9507	0.50 ± 0.0057
	$c^2 = 2$	6567	0.23 ± 0.0051	6567	0.23 ± 0.0051	9011	0.44 ± 0.0059	9272	0.47 ± 0.0058
	$c^2 = 4$	503	0.01 ± 0.0008	503	0.01 ± 0.0008	5173	0.18 ± 0.0048	6716	0.24 ± 0.0051
	$c^2 = 10$	4	0.00 ± 0.0000	4	0.00 ± 0.0000	366	0.01 ± 0.0008	2163	0.05 ± 0.0022
Z	$-$	239	0.01 ± 0.0004	239	0.01 ± 0.0004	8838	0.40 ± 0.0058	5441	0.17 ± 0.0044
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	4	0.00 ± 0.0001	4	0.00 ± 0.0001	7842	0.32 ± 0.0057	2521	0.05 ± 0.0019
	$(1, 4)$	874	0.02 ± 0.0012	874	0.02 ± 0.0012	6398	0.24 ± 0.0054	7420	0.29 ± 0.0056
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	835	0.02 ± 0.0014	1253	0.03 ± 0.0018
RRI	$p = 0.1$	8334	0.35 ± 0.0056	8334	0.35 ± 0.0056	2618	0.04 ± 0.0014	1866	0.03 ± 0.0012
	$p = 0.5$	4316	0.10 ± 0.0028	4316	0.10 ± 0.0028	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	12	0.00 ± 0.0001	12	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	8625	0.40 ± 0.0059	8625	0.40 ± 0.0059	9348	0.48 ± 0.0057	9478	0.50 ± 0.0057
	0.5	8274	0.37 ± 0.0059	8274	0.37 ± 0.0059	9081	0.44 ± 0.0058	9496	0.49 ± 0.0057
	1	7633	0.32 ± 0.0057	7633	0.32 ± 0.0057	8537	0.40 ± 0.0060	9390	0.49 ± 0.0057
	3	5000	0.19 ± 0.0052	5000	0.19 ± 0.0052	5418	0.18 ± 0.0045	6226	0.21 ± 0.0049
	5.25	3876	0.13 ± 0.0042	3876	0.13 ± 0.0042	5836	0.24 ± 0.0056	8056	0.37 ± 0.0060
mH_2	$m = 2$	6768	0.27 ± 0.0056	6768	0.27 ± 0.0056	8123	0.36 ± 0.0059	9293	0.47 ± 0.0058
	$m = 5$	8237	0.38 ± 0.0060	8237	0.38 ± 0.0060	8160	0.37 ± 0.0060	9454	0.49 ± 0.0057
	$m = 10$	7914	0.35 ± 0.0059	7914	0.35 ± 0.0059	8146	0.37 ± 0.0060	9437	0.49 ± 0.0057
	$m = 20$	7884	0.35 ± 0.0059	7884	0.35 ± 0.0059	8308	0.39 ± 0.0060	9439	0.50 ± 0.0057
$RRI(H_2)$	$p = 0.1$	610	0.01 ± 0.0009	610	0.01 ± 0.0009	818	0.02 ± 0.0008	401	0.01 ± 0.0005
	$p = 0.5$	608	0.01 ± 0.0010	608	0.01 ± 0.0010	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	10	0.00 ± 0.0001	10	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXX. Tests for $H_2(c^2 = 1.25)$ using $-log(F(X))$ or $-log(1 - F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.00	1.03	0.50	0.33	0.50	0.33	1.00	0.84	0.52	0.31
E_k	$k = 2$	0.50	0.33	0.99	0.64	0.59	0.19	0.50	0.33	0.99	0.43	0.64	0.15
	$k = 4$	0.50	0.33	0.99	0.36	0.68	0.10	0.50	0.33	0.99	0.22	0.74	0.07
	$k = 6$	0.50	0.33	0.99	0.25	0.73	0.07	0.50	0.33	0.99	0.15	0.79	0.05
H_2	$c^2 = 1.25$	0.50	0.33	1.00	1.00	0.50	0.34	0.50	0.34	1.00	1.00	0.50	0.33
	$c^2 = 1.5$	0.50	0.33	1.00	0.96	0.51	0.33	0.50	0.34	1.00	1.15	0.48	0.35
	$c^2 = 2$	0.50	0.33	1.00	0.91	0.51	0.33	0.50	0.34	1.00	1.45	0.45	0.37
	$c^2 = 4$	0.50	0.33	1.00	0.79	0.54	0.29	0.50	0.34	1.01	2.50	0.40	0.40
	$c^2 = 10$	0.50	0.33	1.00	0.69	0.57	0.23	0.50	0.35	1.03	4.86	0.36	0.38
Z	–	0.50	0.33	1.00	0.80	0.56	0.21	0.50	0.33	0.99	0.68	0.60	0.18
LN	$(1, 0.25)$	0.50	0.33	0.99	0.26	0.72	0.10	0.50	0.33	0.99	0.21	0.75	0.05
	$(1, 1)$	0.50	0.33	0.99	0.51	0.61	0.22	0.50	0.33	1.00	0.74	0.59	0.16
	$(1, 4)$	0.50	0.33	1.00	0.64	0.56	0.30	0.50	0.34	1.01	2.16	0.41	0.39
	$(1, 10)$	0.50	0.33	1.00	0.64	0.56	0.31	0.50	0.34	1.03	3.59	0.33	0.59
RRI	$p = 0.1$	0.50	0.34	1.00	1.03	0.50	0.33	0.50	0.34	1.00	0.83	0.53	0.31
	$p = 0.5$	0.50	0.34	1.01	1.02	0.50	0.33	0.50	0.34	1.01	0.83	0.53	0.31
	$p = 0.9$	0.50	0.38	1.07	0.93	0.54	0.32	0.50	0.37	1.06	0.82	0.56	0.31
$EARMA$	0.25	0.50	0.33	1.00	1.03	0.50	0.33	0.50	0.34	1.00	0.83	0.52	0.31
	0.5	0.50	0.34	1.00	1.04	0.50	0.33	0.50	0.34	1.00	0.83	0.53	0.31
	1	0.50	0.34	1.00	1.04	0.50	0.33	0.50	0.34	1.01	0.80	0.53	0.31
	3	0.50	0.36	1.04	1.00	0.51	0.33	0.50	0.35	1.03	0.77	0.53	0.31
	5.25	0.50	0.34	1.01	1.12	0.50	0.33	0.50	0.35	1.03	0.70	0.54	0.30
mH_2	$m = 2$	0.50	0.34	1.00	0.91	0.52	0.32	0.50	0.34	1.01	1.59	0.46	0.36
	$m = 5$	0.50	0.34	1.00	1.00	0.50	0.33	0.50	0.34	1.01	1.02	0.50	0.33
	$m = 10$	0.50	0.34	1.00	1.02	0.50	0.33	0.50	0.34	1.00	0.90	0.51	0.32
	$m = 20$	0.50	0.34	1.00	1.02	0.50	0.33	0.50	0.34	1.00	0.85	0.52	0.32
$RRI(H_2)$	$p = 0.1$	0.50	0.33	1.00	0.79	0.54	0.29	0.50	0.34	1.02	2.49	0.40	0.40
	$p = 0.5$	0.50	0.34	1.01	0.80	0.55	0.29	0.50	0.35	1.04	2.31	0.41	0.41
	$p = 0.9$	0.50	0.37	1.07	0.93	0.58	0.29	0.50	0.41	1.11	1.71	0.47	0.43

Table XXXI. Tests for $H_2(c^2 = 1.25)$ using $-log(F(X))$ or $-log(1 - F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	9443	0.48 ± 0.0056	9421	0.49 ± 0.0057	9354	0.48 ± 0.0057	9755	0.58 ± 0.0056	9219	0.45 ± 0.0057	8282	0.34 ± 0.0056
E_k	$k = 2$	9918	0.69 ± 0.0052	934	0.02 ± 0.0008	69	0.00 ± 0.0002	9996	0.83 ± 0.0040	3	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	9999	0.88 ± 0.0033	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.96 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.94 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0008	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9457	0.50 ± 0.0056	9490	0.50 ± 0.0057	9535	0.50 ± 0.0057	9483	0.50 ± 0.0057	9514	0.50 ± 0.0057	9502	0.50 ± 0.0057
	$c^2 = 1.5$	9571	0.51 ± 0.0056	9476	0.49 ± 0.0056	9418	0.48 ± 0.0057	9162	0.43 ± 0.0056	9062	0.45 ± 0.0058	8474	0.37 ± 0.0058
	$c^2 = 2$	9653	0.54 ± 0.0056	9169	0.44 ± 0.0056	8787	0.40 ± 0.0057	8434	0.34 ± 0.0053	7280	0.30 ± 0.0057	3948	0.11 ± 0.0038
	$c^2 = 4$	9801	0.60 ± 0.0055	7140	0.22 ± 0.0045	4609	0.12 ± 0.0036	5662	0.16 ± 0.0038	3206	0.11 ± 0.0041	194	0.00 ± 0.0007
	$c^2 = 10$	9909	0.66 ± 0.0053	2987	0.06 ± 0.0020	586	0.01 ± 0.0008	2262	0.05 ± 0.0022	2377	0.09 ± 0.0039	207	0.01 ± 0.0010
Z	–	9792	0.59 ± 0.0056	3296	0.06 ± 0.0018	1025	0.02 ± 0.0010	9843	0.68 ± 0.0055	368	0.01 ± 0.0004	23	0.00 ± 0.0001
LN	$(1, 0.25)$	10000	0.93 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.96 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9987	0.77 ± 0.0046	1069	0.02 ± 0.0009	3	0.00 ± 0.0000	9829	0.63 ± 0.0055	34	0.00 ± 0.0001	0	0.00 ± 0.0000
	$(1, 4)$	9932	0.69 ± 0.0051	4928	0.12 ± 0.0032	729	0.01 ± 0.0008	6503	0.21 ± 0.0045	2984	0.09 ± 0.0034	411	0.01 ± 0.0009
	$(1, 10)$	9933	0.70 ± 0.0051	4388	0.10 ± 0.0027	445	0.01 ± 0.0006	3473	0.08 ± 0.0028	87	0.00 ± 0.0003	0	0.00 ± 0.0000
RRI	$p = 0.1$	8973	0.41 ± 0.0056	9012	0.41 ± 0.0056	8941	0.40 ± 0.0055	9473	0.50 ± 0.0057	8685	0.37 ± 0.0055	7594	0.29 ± 0.0053
	$p = 0.5$	5277	0.14 ± 0.0037	5006	0.12 ± 0.0033	4659	0.11 ± 0.0030	6472	0.20 ± 0.0043	4748	0.12 ± 0.0032	3633	0.08 ± 0.0026
	$p = 0.9$	622	0.01 ± 0.0010	73	0.00 ± 0.0002	12	0.00 ± 0.0001	898	0.02 ± 0.0013	79	0.00 ± 0.0002	12	0.00 ± 0.0001
$EARMA$	0.25	9233	0.45 ± 0.0056	9270	0.47 ± 0.0057	9255	0.46 ± 0.0057	9162	0.44 ± 0.0057	8953	0.42 ± 0.0057	8249	0.34 ± 0.0057
	0.5	8876	0.39 ± 0.0055	9104	0.43 ± 0.0057	9063	0.43 ± 0.0058	8332	0.33 ± 0.0053	8575	0.39 ± 0.0058	8103	0.33 ± 0.0056
	1	8525	0.36 ± 0.0055	8661	0.37 ± 0.0056	8393	0.37 ± 0.0058	7020	0.24 ± 0.0049	7843	0.33 ± 0.0057	7492	0.30 ± 0.0056
	3	1448	0.03 ± 0.0015	5568	0.21 ± 0.0054	6850	0.30 ± 0.0060	2410	0.05 ± 0.0022	4931	0.18 ± 0.0049	5752	0.23 ± 0.0056
	5.25	4787	0.14 ± 0.0038	4726	0.15 ± 0.0042	4666	0.16 ± 0.0046	2126	0.05 ± 0.0022	3808	0.12 ± 0.0039	4421	0.15 ± 0.0046
mH_2	$m = 2$	9015	0.42 ± 0.0057	8850	0.41 ± 0.0057	8496	0.39 ± 0.0059	5906	0.17 ± 0.0041	7442	0.33 ± 0.0060	4976	0.18 ± 0.0048
	$m = 5$	8282	0.35 ± 0.0056	8774	0.40 ± 0.0058	8868	0.42 ± 0.0058	6496	0.22 ± 0.0049	8559	0.40 ± 0.0059	9306	0.47 ± 0.0057
	$m = 10$	8399	0.36 ± 0.0057	8751	0.40 ± 0.0058	8781	0.41 ± 0.0058	7407	0.30 ± 0.0056	8519	0.40 ± 0.0059	9118	0.44 ± 0.0058
	$m = 20$	8789	0.41 ± 0.0058	8899	0.41 ± 0.0057	8817	0.42 ± 0.0058	8489	0.39 ± 0.0060	8734	0.40 ± 0.0058	8736	0.39 ± 0.0058
$RRI(H_2)$	$p = 0.1$	9613	0.53 ± 0.0057	6647	0.20 ± 0.0041	4226	0.11 ± 0.0035	4858	0.13 ± 0.0035	3192	0.10 ± 0.0038	273	0.01 ± 0.0008
	$p = 0.5$	6714	0.22 ± 0.0047	3106	0.07 ± 0.0023	1998	0.04 ± 0.0019	1886	0.04 ± 0.0019	2656	0.06 ± 0.0025	586	0.01 ± 0.0011
	$p = 0.9$	1069	0.02 ± 0.0015	50	0.00 ± 0.0002	6	0.00 ± 0.0001	299	0.01 ± 0.0006	57	0.00 ± 0.0002	8	0.00 ± 0.0001

Table XXXII. Tests for $H_2(c^2 = 1.5)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	1.00	1.00	0.53	0.29	1.03	1.04	0.50	0.34
E_k	$k = 2$	1.00	0.50	0.59	0.14	1.06	2.16	0.43	0.38
	$k = 4$	1.00	0.25	0.62	0.07	1.09	8.11	0.32	0.42
	$k = 6$	1.00	0.17	0.64	0.04	1.10	15.68	0.27	0.44
H_2	$c^2 = 1.25$	1.00	1.24	0.51	0.31	1.01	1.00	0.50	0.34
	$c^2 = 1.5$	1.00	1.48	0.50	0.34	1.00	0.99	0.50	0.33
	$c^2 = 2$	1.00	1.95	0.48	0.37	0.98	1.02	0.50	0.34
	$c^2 = 4$	1.00	3.77	0.44	0.42	0.93	1.39	0.47	0.37
	$c^2 = 10$	1.00	8.64	0.40	0.45	0.88	3.05	0.45	0.39
Z	–	1.00	0.95	0.57	0.17	1.05	1.54	0.45	0.37
LN	$(1, 0.25)$	1.00	0.25	0.63	0.05	1.09	16.26	0.30	0.41
	$(1, 1)$	1.00	0.97	0.56	0.17	1.03	2.67	0.44	0.36
	$(1, 4)$	1.00	3.45	0.45	0.41	0.95	1.31	0.48	0.36
	$(1, 10)$	1.00	6.76	0.38	0.63	0.88	1.96	0.44	0.41
RRI	$p = 0.1$	1.00	0.99	0.53	0.29	1.03	1.27	0.45	0.49
	$p = 0.5$	1.00	0.98	0.53	0.29	1.03	3.09	0.25	1.68
	$p = 0.9$	1.00	0.88	0.53	0.29	1.03	19.16	0.05	12.31
$EARMA$	0.25	1.00	0.99	0.53	0.29	1.03	1.04	0.50	0.34
	0.5	1.00	0.99	0.53	0.29	1.03	1.04	0.49	0.34
	1	1.00	0.97	0.53	0.29	1.03	1.05	0.49	0.34
	3	1.00	0.97	0.53	0.29	1.03	1.09	0.49	0.34
	5.25	1.00	0.90	0.53	0.28	1.03	1.12	0.48	0.35
mH_2	$m = 2$	1.00	2.35	0.48	0.35	0.98	1.08	0.49	0.34
	$m = 5$	1.00	1.32	0.51	0.32	1.01	1.01	0.50	0.34
	$m = 10$	1.00	1.11	0.52	0.30	1.02	1.02	0.50	0.34
	$m = 20$	1.00	1.03	0.52	0.30	1.02	1.03	0.49	0.34
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.44	0.42	0.93	1.68	0.43	0.52
	$p = 0.5$	1.00	3.43	0.44	0.42	0.93	3.90	0.24	1.74
	$p = 0.9$	1.00	2.21	0.44	0.42	0.93	21.79	0.05	12.82

Table XXXIII. Tests for $H_2(c^2 = 1.5)$ using $F(X)$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	7269	0.28 ± 0.0054	7269	0.28 ± 0.0054	9655	0.53 ± 0.0055	9416	0.49 ± 0.0057
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7794	0.28 ± 0.0052	578	0.01 ± 0.0009
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	31	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9073	0.44 ± 0.0058	9073	0.44 ± 0.0058	9574	0.51 ± 0.0056	9515	0.50 ± 0.0056
	$c^2 = 1.5$	9484	0.50 ± 0.0057	9484	0.50 ± 0.0057	9474	0.50 ± 0.0057	9511	0.50 ± 0.0057
	$c^2 = 2$	8502	0.37 ± 0.0058	8502	0.37 ± 0.0058	9254	0.47 ± 0.0058	9452	0.49 ± 0.0057
	$c^2 = 4$	1600	0.03 ± 0.0018	1600	0.03 ± 0.0018	6342	0.23 ± 0.0053	8003	0.33 ± 0.0057
	$c^2 = 10$	12	0.00 ± 0.0001	12	0.00 ± 0.0001	735	0.02 ± 0.0013	3590	0.09 ± 0.0032
Z	$-$	46	0.00 ± 0.0001	46	0.00 ± 0.0001	9011	0.41 ± 0.0057	3933	0.11 ± 0.0035
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8196	0.34 ± 0.0058	1642	0.03 ± 0.0013
	$(1, 4)$	2287	0.06 ± 0.0024	2287	0.06 ± 0.0024	7247	0.30 ± 0.0057	8324	0.37 ± 0.0058
	$(1, 10)$	1	0.00 ± 0.0000	1	0.00 ± 0.0000	1344	0.03 ± 0.0019	2515	0.07 ± 0.0028
RRI	$p = 0.1$	6748	0.24 ± 0.0050	6748	0.24 ± 0.0050	2635	0.04 ± 0.0014	1718	0.03 ± 0.0012
	$p = 0.5$	3560	0.08 ± 0.0026	3560	0.08 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	14	0.00 ± 0.0001	14	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	7112	0.27 ± 0.0055	7112	0.27 ± 0.0055	9481	0.49 ± 0.0057	9415	0.49 ± 0.0057
	0.5	6878	0.27 ± 0.0054	6878	0.27 ± 0.0054	9234	0.46 ± 0.0057	9408	0.48 ± 0.0057
	1	6406	0.24 ± 0.0052	6406	0.24 ± 0.0052	8746	0.42 ± 0.0059	9263	0.47 ± 0.0058
	3	4550	0.17 ± 0.0049	4550	0.17 ± 0.0049	5719	0.19 ± 0.0046	6095	0.21 ± 0.0048
	5.25	3511	0.11 ± 0.0038	3511	0.11 ± 0.0038	6183	0.25 ± 0.0056	7695	0.33 ± 0.0059
mH_2	$m = 2$	8172	0.37 ± 0.0059	8172	0.37 ± 0.0059	8492	0.39 ± 0.0059	9433	0.48 ± 0.0057
	$m = 5$	7980	0.35 ± 0.0059	7980	0.35 ± 0.0059	8418	0.39 ± 0.0060	9438	0.49 ± 0.0057
	$m = 10$	7189	0.30 ± 0.0057	7189	0.30 ± 0.0057	8436	0.39 ± 0.0059	9394	0.48 ± 0.0057
	$m = 20$	6941	0.28 ± 0.0056	6941	0.28 ± 0.0056	8599	0.41 ± 0.0059	9393	0.49 ± 0.0057
$RRI(H_2)$	$p = 0.1$	1672	0.04 ± 0.0019	1672	0.04 ± 0.0019	1096	0.02 ± 0.0009	672	0.01 ± 0.0007
	$p = 0.5$	1162	0.02 ± 0.0014	1162	0.02 ± 0.0014	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	11	0.00 ± 0.0001	11	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXXIV. Tests for $H_2(c^2 = 1.5)$ using $-log(F(X))$ or $-log(1 - F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.50	0.34	1.00	1.07	0.49	0.33	0.50	0.33	1.00	0.74	0.54	0.30
E_k	$k = 2$	0.50	0.33	0.99	0.66	0.58	0.19	0.50	0.33	0.99	0.39	0.66	0.14
	$k = 4$	0.50	0.33	0.99	0.36	0.68	0.10	0.50	0.33	0.99	0.20	0.75	0.07
	$k = 6$	0.50	0.33	0.99	0.25	0.73	0.07	0.50	0.33	0.99	0.14	0.79	0.05
H_2	$c^2 = 1.25$	0.50	0.34	1.00	1.03	0.50	0.33	0.50	0.33	1.00	0.87	0.52	0.32
	$c^2 = 1.5$	0.50	0.34	1.00	0.99	0.50	0.33	0.50	0.34	1.00	1.00	0.50	0.33
	$c^2 = 2$	0.50	0.33	1.00	0.94	0.51	0.33	0.50	0.34	1.00	1.23	0.47	0.35
	$c^2 = 4$	0.50	0.33	1.00	0.82	0.54	0.29	0.50	0.34	1.01	2.04	0.42	0.38
	$c^2 = 10$	0.50	0.33	1.00	0.71	0.57	0.24	0.50	0.35	1.02	3.97	0.39	0.36
Z	$-$	0.50	0.33	1.00	0.83	0.56	0.21	0.50	0.33	0.99	0.58	0.62	0.18
LN	$(1, 0.25)$	0.50	0.33	0.99	0.26	0.72	0.09	0.50	0.33	0.99	0.19	0.76	0.05
	$(1, 1)$	0.50	0.33	0.99	0.52	0.60	0.21	0.50	0.33	0.99	0.63	0.60	0.16
	$(1, 4)$	0.50	0.33	1.00	0.65	0.56	0.30	0.50	0.34	1.01	1.81	0.44	0.36
	$(1, 10)$	0.50	0.33	1.00	0.65	0.56	0.32	0.50	0.34	1.02	3.07	0.35	0.56
RRI	$p = 0.1$	0.50	0.34	1.00	1.06	0.49	0.33	0.50	0.33	1.00	0.74	0.54	0.30
	$p = 0.5$	0.50	0.34	1.01	1.05	0.50	0.33	0.50	0.34	1.01	0.75	0.54	0.30
	$p = 0.9$	0.50	0.38	1.07	0.95	0.53	0.32	0.50	0.37	1.06	0.75	0.57	0.29
$EARMA$	0.25	0.50	0.33	1.00	1.07	0.49	0.33	0.50	0.34	1.00	0.74	0.54	0.30
	0.5	0.50	0.34	1.00	1.07	0.49	0.33	0.50	0.34	1.00	0.74	0.54	0.30
	1	0.50	0.34	1.00	1.08	0.49	0.33	0.50	0.34	1.00	0.72	0.54	0.30
	3	0.50	0.36	1.04	1.03	0.51	0.32	0.50	0.35	1.03	0.69	0.55	0.30
	5.25	0.50	0.34	1.01	1.15	0.49	0.32	0.50	0.35	1.03	0.63	0.56	0.29
mH_2	$m = 2$	0.50	0.34	1.00	0.94	0.51	0.32	0.50	0.34	1.01	1.32	0.48	0.34
	$m = 5$	0.50	0.34	1.00	1.03	0.50	0.33	0.50	0.34	1.00	0.89	0.52	0.32
	$m = 10$	0.50	0.34	1.00	1.05	0.49	0.33	0.50	0.34	1.00	0.79	0.53	0.31
	$m = 20$	0.50	0.34	1.00	1.06	0.49	0.33	0.50	0.34	1.00	0.76	0.54	0.30
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.00	0.82	0.54	0.29	0.50	0.34	1.01	2.03	0.42	0.38
	$p = 0.5$	0.50	0.34	1.01	0.82	0.54	0.29	0.50	0.35	1.03	1.91	0.43	0.38
	$p = 0.9$	0.50	0.37	1.07	0.89	0.57	0.29	0.50	0.40	1.10	1.48	0.48	0.40

Table XXXV. Tests for $H_2(c^2 = 1.5)$ using $-log(F(X))$ or $-log(1 - F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	9381	0.47 ± 0.0056	9258	0.46 ± 0.0056	9074	0.43 ± 0.0056	9858	0.63 ± 0.0054	8472	0.34 ± 0.0055	5667	0.16 ± 0.0040
E_k	$k = 2$	9908	0.67 ± 0.0052	709	0.01 ± 0.0006	49	0.00 ± 0.0002	9999	0.85 ± 0.0036	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	9999	0.87 ± 0.0033	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.97 ± 0.0015	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.94 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9391	0.49 ± 0.0056	9450	0.49 ± 0.0057	9444	0.48 ± 0.0057	9691	0.56 ± 0.0057	9366	0.48 ± 0.0057	8884	0.41 ± 0.0058
	$c^2 = 1.5$	9510	0.50 ± 0.0056	9516	0.50 ± 0.0056	9505	0.50 ± 0.0056	9471	0.50 ± 0.0056	9482	0.50 ± 0.0057	9480	0.50 ± 0.0057
	$c^2 = 2$	9611	0.53 ± 0.0056	9367	0.48 ± 0.0057	9214	0.46 ± 0.0057	8998	0.41 ± 0.0055	8740	0.41 ± 0.0059	7504	0.29 ± 0.0055
	$c^2 = 4$	9774	0.59 ± 0.0055	7822	0.28 ± 0.0049	5847	0.18 ± 0.0044	6801	0.22 ± 0.0044	4970	0.18 ± 0.0050	809	0.02 ± 0.0015
	$c^2 = 10$	9891	0.65 ± 0.0054	3835	0.08 ± 0.0025	1057	0.02 ± 0.0012	3267	0.08 ± 0.0029	3496	0.14 ± 0.0048	437	0.01 ± 0.0015
Z	–	9751	0.58 ± 0.0056	3094	0.05 ± 0.0016	1007	0.02 ± 0.0009	9943	0.73 ± 0.0050	117	0.00 ± 0.0002	0	0.00 ± 0.0000
LN	$(1, 0.25)$	10000	0.93 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.97 ± 0.0014	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9984	0.76 ± 0.0046	1263	0.02 ± 0.0010	8	0.00 ± 0.0001	9926	0.70 ± 0.0051	5	0.00 ± 0.0001	0	0.00 ± 0.0000
	$(1, 4)$	9922	0.68 ± 0.0052	5781	0.15 ± 0.0037	1196	0.02 ± 0.0012	7419	0.27 ± 0.0051	4868	0.16 ± 0.0043	1544	0.04 ± 0.0021
	$(1, 10)$	9918	0.69 ± 0.0051	5186	0.12 ± 0.0032	802	0.02 ± 0.0008	4447	0.12 ± 0.0034	225	0.00 ± 0.0005	0	0.00 ± 0.0000
RRI	$p = 0.1$	8872	0.40 ± 0.0055	8811	0.39 ± 0.0055	8626	0.36 ± 0.0053	9637	0.55 ± 0.0057	7778	0.29 ± 0.0051	4934	0.13 ± 0.0038
	$p = 0.5$	5107	0.14 ± 0.0036	4916	0.12 ± 0.0032	4549	0.10 ± 0.0029	7000	0.23 ± 0.0047	4123	0.10 ± 0.0029	2348	0.05 ± 0.0020
	$p = 0.9$	591	0.01 ± 0.0010	79	0.00 ± 0.0002	14	0.00 ± 0.0001	1045	0.02 ± 0.0015	72	0.00 ± 0.0002	9	0.00 ± 0.0001
$EARMA$	0.25	9160	0.43 ± 0.0056	9101	0.44 ± 0.0056	8959	0.41 ± 0.0056	9441	0.49 ± 0.0057	8179	0.33 ± 0.0054	5620	0.16 ± 0.0040
	0.5	8799	0.38 ± 0.0055	8950	0.41 ± 0.0056	8770	0.39 ± 0.0056	8759	0.38 ± 0.0056	7791	0.30 ± 0.0054	5455	0.15 ± 0.0041
	1	8437	0.35 ± 0.0054	8496	0.35 ± 0.0055	8113	0.34 ± 0.0056	7595	0.28 ± 0.0052	7041	0.26 ± 0.0052	4976	0.15 ± 0.0041
	3	1393	0.03 ± 0.0015	5536	0.20 ± 0.0051	6897	0.29 ± 0.0058	2791	0.06 ± 0.0025	4373	0.15 ± 0.0045	4455	0.16 ± 0.0048
	5.25	4754	0.13 ± 0.0038	4608	0.14 ± 0.0040	4530	0.15 ± 0.0044	2507	0.06 ± 0.0025	3302	0.09 ± 0.0035	3149	0.10 ± 0.0037
mH_2	$m = 2$	8953	0.41 ± 0.0057	9027	0.43 ± 0.0058	8896	0.43 ± 0.0058	6749	0.22 ± 0.0046	8405	0.39 ± 0.0060	7722	0.33 ± 0.0057
	$m = 5$	8190	0.34 ± 0.0055	8721	0.40 ± 0.0058	8807	0.41 ± 0.0058	7141	0.26 ± 0.0052	8359	0.38 ± 0.0058	8751	0.40 ± 0.0058
	$m = 10$	8301	0.35 ± 0.0056	8638	0.39 ± 0.0057	8598	0.39 ± 0.0057	7932	0.34 ± 0.0058	8038	0.34 ± 0.0057	7315	0.26 ± 0.0052
	$m = 20$	8713	0.39 ± 0.0057	8766	0.39 ± 0.0056	8667	0.39 ± 0.0057	8885	0.44 ± 0.0061	8062	0.33 ± 0.0055	6384	0.20 ± 0.0046
$RRI(H_2)$	$p = 0.1$	9556	0.51 ± 0.0057	7323	0.24 ± 0.0046	5351	0.16 ± 0.0042	6050	0.17 ± 0.0041	4888	0.17 ± 0.0047	935	0.02 ± 0.0017
	$p = 0.5$	6549	0.21 ± 0.0046	3560	0.08 ± 0.0025	2511	0.05 ± 0.0022	2553	0.06 ± 0.0023	3372	0.08 ± 0.0028	1173	0.02 ± 0.0015
	$p = 0.9$	1012	0.02 ± 0.0015	53	0.00 ± 0.0002	6	0.00 ± 0.0001	354	0.01 ± 0.0007	72	0.00 ± 0.0002	13	0.00 ± 0.0001

Table XXXVI. Tests for $H_2(c^2 = 2)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	1.00	1.00	0.55	0.27	1.06	1.09	0.49	0.35
E_k	$k = 2$	1.00	0.50	0.61	0.13	1.12	2.34	0.41	0.39
	$k = 4$	1.00	0.25	0.65	0.06	1.16	8.69	0.31	0.43
	$k = 6$	1.00	0.17	0.67	0.04	1.17	16.66	0.26	0.45
H_2	$c^2 = 1.25$	1.00	1.24	0.53	0.29	1.04	1.04	0.49	0.34
	$c^2 = 1.5$	1.00	1.48	0.52	0.31	1.03	1.01	0.50	0.34
	$c^2 = 2$	1.00	1.95	0.50	0.33	1.00	0.99	0.50	0.33
	$c^2 = 4$	1.00	3.77	0.46	0.39	0.94	1.15	0.49	0.35
	$c^2 = 10$	1.00	8.64	0.42	0.42	0.87	2.14	0.46	0.37
Z	–	1.00	0.95	0.59	0.16	1.10	1.65	0.44	0.38
LN	$(1, 0.25)$	1.00	0.25	0.65	0.05	1.16	17.40	0.28	0.41
	$(1, 1)$	1.00	0.97	0.58	0.15	1.08	2.94	0.43	0.36
	$(1, 4)$	1.00	3.45	0.47	0.37	0.96	1.17	0.49	0.35
	$(1, 10)$	1.00	6.76	0.40	0.58	0.87	1.61	0.45	0.39
RRI	$p = 0.1$	1.00	0.99	0.55	0.26	1.06	1.33	0.44	0.50
	$p = 0.5$	1.00	0.98	0.55	0.27	1.06	3.19	0.25	1.70
	$p = 0.9$	1.00	0.88	0.55	0.27	1.06	19.45	0.05	12.34
$EARMA$	0.25	1.00	0.99	0.55	0.26	1.07	1.09	0.49	0.35
	0.5	1.00	0.99	0.55	0.26	1.06	1.10	0.49	0.35
	1	1.00	0.97	0.55	0.26	1.06	1.11	0.48	0.35
	3	1.00	0.97	0.55	0.27	1.07	1.15	0.48	0.35
	5.25	1.00	0.90	0.55	0.26	1.07	1.18	0.47	0.36
mH_2	$m = 2$	1.00	2.35	0.50	0.33	1.00	1.03	0.50	0.34
	$m = 5$	1.00	1.32	0.53	0.29	1.04	1.05	0.49	0.34
	$m = 10$	1.00	1.11	0.54	0.28	1.05	1.07	0.49	0.35
	$m = 20$	1.00	1.03	0.54	0.27	1.06	1.08	0.49	0.35
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.46	0.39	0.94	1.40	0.44	0.50
	$p = 0.5$	1.00	3.43	0.46	0.39	0.93	3.39	0.24	1.71
	$p = 0.9$	1.00	2.21	0.46	0.38	0.94	20.38	0.05	12.65

Table XXXVII. Tests for $H_2(c^2 = 2)$ using $F(X)$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	3661	0.10 ± 0.0034	3661	0.10 ± 0.0034	9690	0.50 ± 0.0053	8951	0.43 ± 0.0058
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8228	0.30 ± 0.0051	92	0.00 ± 0.0003
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	62	0.00 ± 0.0002	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	6574	0.23 ± 0.0052	6574	0.23 ± 0.0052	9618	0.51 ± 0.0055	9433	0.49 ± 0.0057
	$c^2 = 1.5$	8530	0.39 ± 0.0059	8530	0.39 ± 0.0059	9548	0.51 ± 0.0056	9497	0.50 ± 0.0057
	$c^2 = 2$	9511	0.50 ± 0.0056	9511	0.50 ± 0.0056	9528	0.50 ± 0.0056	9482	0.50 ± 0.0057
	$c^2 = 4$	4983	0.14 ± 0.0040	4983	0.14 ± 0.0040	7925	0.34 ± 0.0058	9107	0.44 ± 0.0058
	$c^2 = 10$	269	0.01 ± 0.0005	269	0.01 ± 0.0005	1889	0.05 ± 0.0024	6142	0.19 ± 0.0046
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9303	0.43 ± 0.0054	1932	0.04 ± 0.0021
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8832	0.41 ± 0.0059	585	0.01 ± 0.0006
	$(1, 4)$	5685	0.18 ± 0.0045	5685	0.18 ± 0.0045	8362	0.38 ± 0.0059	9051	0.44 ± 0.0059
	$(1, 10)$	13	0.00 ± 0.0001	13	0.00 ± 0.0001	2396	0.07 ± 0.0029	4888	0.15 ± 0.0043
RRI	$p = 0.1$	3400	0.09 ± 0.0032	3400	0.09 ± 0.0032	2614	0.04 ± 0.0014	1352	0.02 ± 0.0010
	$p = 0.5$	2058	0.05 ± 0.0020	2058	0.05 ± 0.0020	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	9	0.00 ± 0.0001	9	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	3697	0.10 ± 0.0035	3697	0.10 ± 0.0035	9506	0.48 ± 0.0056	8922	0.43 ± 0.0058
	0.5	3839	0.11 ± 0.0037	3839	0.11 ± 0.0037	9346	0.46 ± 0.0056	8872	0.42 ± 0.0059
	1	3755	0.11 ± 0.0037	3755	0.11 ± 0.0037	8922	0.42 ± 0.0058	8629	0.40 ± 0.0059
	3	3607	0.13 ± 0.0044	3607	0.13 ± 0.0044	5953	0.20 ± 0.0046	5683	0.19 ± 0.0047
	5.25	2770	0.08 ± 0.0032	2770	0.08 ± 0.0032	6590	0.26 ± 0.0055	6642	0.27 ± 0.0056
mH_2	$m = 2$	8771	0.42 ± 0.0058	8771	0.42 ± 0.0058	8930	0.43 ± 0.0059	9466	0.49 ± 0.0057
	$m = 5$	6227	0.24 ± 0.0053	6227	0.24 ± 0.0053	8701	0.41 ± 0.0059	9290	0.47 ± 0.0058
	$m = 10$	5052	0.18 ± 0.0047	5052	0.18 ± 0.0047	8731	0.41 ± 0.0059	9032	0.44 ± 0.0058
	$m = 20$	4598	0.15 ± 0.0044	4598	0.15 ± 0.0044	8830	0.42 ± 0.0058	9013	0.43 ± 0.0058
$RRI(H_2)$	$p = 0.1$	4641	0.14 ± 0.0040	4641	0.14 ± 0.0040	1616	0.03 ± 0.0011	1227	0.02 ± 0.0010
	$p = 0.5$	2542	0.05 ± 0.0022	2542	0.05 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	13	0.00 ± 0.0001	13	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XXXVIII. Tests for $H_2(c^2 = 2)$ using $-log(F(X))$ or $-log(1 - F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.50	0.34	1.00	1.13	0.48	0.33	0.50	0.33	1.00	0.64	0.56	0.29
E_k	$k = 2$	0.50	0.33	0.99	0.70	0.58	0.19	0.50	0.33	0.99	0.34	0.67	0.14
	$k = 4$	0.50	0.33	0.99	0.38	0.68	0.10	0.50	0.33	0.99	0.18	0.76	0.07
	$k = 6$	0.50	0.33	0.99	0.26	0.73	0.07	0.50	0.33	0.99	0.12	0.80	0.04
H_2	$c^2 = 1.25$	0.50	0.34	1.00	1.09	0.49	0.34	0.50	0.33	1.00	0.74	0.54	0.30
	$c^2 = 1.5$	0.50	0.34	1.00	1.05	0.49	0.34	0.50	0.33	1.00	0.83	0.52	0.32
	$c^2 = 2$	0.50	0.33	1.00	1.00	0.50	0.33	0.50	0.34	1.00	1.00	0.50	0.33
	$c^2 = 4$	0.50	0.33	1.00	0.87	0.53	0.30	0.50	0.34	1.01	1.55	0.45	0.35
	$c^2 = 10$	0.50	0.33	1.00	0.76	0.56	0.25	0.50	0.34	1.02	2.86	0.42	0.34
Z	$-$	0.50	0.33	1.00	0.89	0.55	0.21	0.50	0.33	0.99	0.47	0.64	0.17
LN	$(1, 0.25)$	0.50	0.33	0.99	0.27	0.71	0.09	0.50	0.33	0.99	0.17	0.78	0.05
	$(1, 1)$	0.50	0.33	0.99	0.55	0.60	0.21	0.50	0.33	0.99	0.51	0.63	0.15
	$(1, 4)$	0.50	0.33	1.00	0.68	0.55	0.31	0.50	0.34	1.00	1.41	0.47	0.34
	$(1, 10)$	0.50	0.33	1.00	0.68	0.55	0.33	0.50	0.34	1.01	2.43	0.38	0.52
RRI	$p = 0.1$	0.50	0.34	1.00	1.13	0.48	0.33	0.50	0.33	1.00	0.64	0.56	0.28
	$p = 0.5$	0.50	0.34	1.02	1.11	0.49	0.33	0.50	0.34	1.01	0.65	0.57	0.28
	$p = 0.9$	0.50	0.38	1.07	0.98	0.53	0.32	0.50	0.36	1.05	0.67	0.59	0.27
$EARMA$	0.25	0.50	0.33	1.00	1.13	0.48	0.33	0.50	0.34	1.00	0.64	0.56	0.28
	0.5	0.50	0.34	1.00	1.14	0.48	0.33	0.50	0.34	1.00	0.64	0.56	0.28
	1	0.50	0.34	1.00	1.14	0.48	0.33	0.50	0.34	1.00	0.63	0.56	0.28
	3	0.50	0.36	1.05	1.08	0.50	0.33	0.50	0.35	1.03	0.61	0.57	0.28
	5.25	0.50	0.34	1.01	1.22	0.49	0.33	0.50	0.35	1.02	0.56	0.57	0.27
mH_2	$m = 2$	0.50	0.34	1.00	1.00	0.50	0.33	0.50	0.34	1.00	1.04	0.51	0.32
	$m = 5$	0.50	0.34	1.00	1.09	0.49	0.34	0.50	0.34	1.00	0.75	0.54	0.30
	$m = 10$	0.50	0.34	1.00	1.12	0.49	0.34	0.50	0.34	1.00	0.68	0.55	0.29
	$m = 20$	0.50	0.34	1.00	1.12	0.48	0.33	0.50	0.34	1.00	0.66	0.56	0.29
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.00	0.87	0.53	0.30	0.50	0.34	1.01	1.55	0.45	0.36
	$p = 0.5$	0.50	0.34	1.01	0.87	0.53	0.30	0.50	0.35	1.02	1.48	0.46	0.36
	$p = 0.9$	0.50	0.37	1.07	0.88	0.56	0.30	0.50	0.39	1.09	1.23	0.51	0.36

Table XXXIX. Tests for $H_2(c^2 = 2)$ using $-log(F(X))$ or $-log(1 - F(X))$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	9256	0.44 ± 0.0056	8753	0.38 ± 0.0053	8082	0.32 ± 0.0052	9935	0.69 ± 0.0051	6736	0.20 ± 0.0042	1613	0.03 ± 0.0014
E_k	$k = 2$	9873	0.65 ± 0.0053	473	0.01 ± 0.0004	33	0.00 ± 0.0001	10000	0.89 ± 0.0032	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	9999	0.86 ± 0.0035	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0012	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.94 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9259	0.46 ± 0.0056	9118	0.44 ± 0.0056	8776	0.40 ± 0.0057	9850	0.63 ± 0.0055	8450	0.35 ± 0.0054	5543	0.15 ± 0.0038
	$c^2 = 1.5$	9394	0.47 ± 0.0056	9376	0.48 ± 0.0057	9239	0.47 ± 0.0058	9750	0.58 ± 0.0056	9222	0.45 ± 0.0057	8307	0.34 ± 0.0055
	$c^2 = 2$	9518	0.50 ± 0.0056	9463	0.50 ± 0.0057	9499	0.50 ± 0.0057	9482	0.50 ± 0.0057	9531	0.50 ± 0.0056	9507	0.50 ± 0.0056
	$c^2 = 4$	9702	0.56 ± 0.0056	8713	0.37 ± 0.0055	7648	0.30 ± 0.0055	8143	0.31 ± 0.0052	7479	0.32 ± 0.0058	3888	0.11 ± 0.0038
	$c^2 = 10$	9851	0.62 ± 0.0055	5476	0.13 ± 0.0033	2513	0.05 ± 0.0022	5098	0.15 ± 0.0039	5346	0.22 ± 0.0056	1221	0.04 ± 0.0024
Z	–	9673	0.55 ± 0.0057	2929	0.05 ± 0.0013	1080	0.02 ± 0.0008	9989	0.80 ± 0.0043	16	0.00 ± 0.0001	0	0.00 ± 0.0000
LN	$(1, 0.25)$	10000	0.93 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9971	0.75 ± 0.0048	1850	0.03 ± 0.0013	42	0.00 ± 0.0002	9982	0.77 ± 0.0046	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	9901	0.66 ± 0.0053	6964	0.22 ± 0.0045	2429	0.05 ± 0.0020	8493	0.36 ± 0.0055	7345	0.27 ± 0.0050	5281	0.16 ± 0.0043
	$(1, 10)$	9898	0.67 ± 0.0052	6230	0.17 ± 0.0038	1665	0.03 ± 0.0014	5824	0.17 ± 0.0042	663	0.01 ± 0.0009	11	0.00 ± 0.0001
RRI	$p = 0.1$	8697	0.37 ± 0.0055	8289	0.32 ± 0.0051	7586	0.27 ± 0.0048	9804	0.61 ± 0.0056	6034	0.17 ± 0.0039	1410	0.03 ± 0.0013
	$p = 0.5$	4799	0.12 ± 0.0034	4637	0.11 ± 0.0029	4073	0.09 ± 0.0026	7608	0.28 ± 0.0050	3127	0.07 ± 0.0024	883	0.02 ± 0.0012
	$p = 0.9$	531	0.01 ± 0.0009	81	0.00 ± 0.0002	18	0.00 ± 0.0001	1282	0.03 ± 0.0017	55	0.00 ± 0.0002	6	0.00 ± 0.0000
$EARMA$	0.25	9009	0.41 ± 0.0055	8617	0.36 ± 0.0052	7959	0.31 ± 0.0051	9684	0.56 ± 0.0056	6539	0.19 ± 0.0041	1577	0.03 ± 0.0014
	0.5	8638	0.36 ± 0.0054	8415	0.34 ± 0.0052	7783	0.29 ± 0.0050	9216	0.45 ± 0.0057	6211	0.18 ± 0.0041	1630	0.03 ± 0.0015
	1	8292	0.33 ± 0.0053	7964	0.30 ± 0.0050	7271	0.26 ± 0.0049	8364	0.34 ± 0.0055	5593	0.16 ± 0.0039	1607	0.03 ± 0.0017
	3	1263	0.02 ± 0.0014	5444	0.18 ± 0.0046	6738	0.25 ± 0.0053	3333	0.08 ± 0.0028	3525	0.10 ± 0.0037	2577	0.07 ± 0.0032
	5.25	4641	0.13 ± 0.0037	4357	0.12 ± 0.0036	4196	0.12 ± 0.0039	3118	0.08 ± 0.0029	2535	0.06 ± 0.0027	1690	0.05 ± 0.0025
mH_2	$m = 2$	8803	0.39 ± 0.0056	9142	0.44 ± 0.0058	9191	0.45 ± 0.0057	7788	0.29 ± 0.0052	8850	0.41 ± 0.0058	9091	0.43 ± 0.0057
	$m = 5$	8005	0.32 ± 0.0054	8430	0.36 ± 0.0056	8296	0.35 ± 0.0056	7974	0.33 ± 0.0056	7468	0.29 ± 0.0053	5465	0.16 ± 0.0041
	$m = 10$	8119	0.33 ± 0.0055	8221	0.34 ± 0.0054	7896	0.32 ± 0.0054	8543	0.40 ± 0.0061	6749	0.23 ± 0.0047	3210	0.07 ± 0.0025
	$m = 20$	8526	0.37 ± 0.0056	8354	0.34 ± 0.0053	7896	0.30 ± 0.0052	9265	0.50 ± 0.0061	6589	0.21 ± 0.0044	2263	0.05 ± 0.0018
$RRI(H_2)$	$p = 0.1$	9447	0.49 ± 0.0057	8235	0.32 ± 0.0052	7077	0.26 ± 0.0052	7377	0.26 ± 0.0048	7039	0.28 ± 0.0055	3720	0.11 ± 0.0037
	$p = 0.5$	6235	0.19 ± 0.0044	4176	0.10 ± 0.0029	3355	0.07 ± 0.0025	3586	0.09 ± 0.0029	4245	0.10 ± 0.0031	2467	0.05 ± 0.0022
	$p = 0.9$	893	0.02 ± 0.0014	55	0.00 ± 0.0002	6	0.00 ± 0.0001	440	0.01 ± 0.0008	79	0.00 ± 0.0002	9	0.00 ± 0.0001

Table XL. Tests for $H_2(c^2 = 4)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	1.00	1.00	0.59	0.23	1.20	1.21	0.46	0.38
E_k	$k = 2$	1.00	0.50	0.66	0.10	1.30	2.54	0.37	0.42
	$k = 4$	1.00	0.25	0.71	0.05	1.36	9.16	0.28	0.45
	$k = 6$	1.00	0.17	0.72	0.03	1.38	17.38	0.23	0.46
H_2	$c^2 = 1.25$	1.00	1.24	0.57	0.25	1.17	1.15	0.47	0.37
	$c^2 = 1.5$	1.00	1.48	0.56	0.27	1.14	1.10	0.48	0.36
	$c^2 = 2$	1.00	1.95	0.54	0.29	1.10	1.05	0.49	0.35
	$c^2 = 4$	1.00	3.77	0.50	0.33	1.00	1.00	0.50	0.34
	$c^2 = 10$	1.00	8.64	0.46	0.36	0.91	1.18	0.49	0.35
Z	–	1.00	0.95	0.64	0.13	1.25	1.80	0.41	0.41
LN	$(1, 0.25)$	1.00	0.25	0.71	0.03	1.36	18.34	0.26	0.42
	$(1, 1)$	1.00	0.97	0.63	0.12	1.23	3.26	0.40	0.37
	$(1, 4)$	1.00	3.45	0.51	0.31	1.03	1.12	0.49	0.35
	$(1, 10)$	1.00	6.76	0.44	0.51	0.91	1.27	0.47	0.37
RRI	$p = 0.1$	1.00	0.99	0.59	0.23	1.20	1.45	0.41	0.54
	$p = 0.5$	1.00	0.98	0.59	0.23	1.20	3.40	0.23	1.78
	$p = 0.9$	1.00	0.88	0.59	0.23	1.20	20.17	0.05	12.61
$EARMA$	0.25	1.00	0.99	0.59	0.23	1.20	1.21	0.46	0.38
	0.5	1.00	0.99	0.59	0.23	1.20	1.21	0.46	0.38
	1	1.00	0.97	0.59	0.23	1.20	1.22	0.45	0.39
	3	1.00	0.97	0.59	0.23	1.20	1.28	0.46	0.38
	5.25	1.00	0.90	0.59	0.22	1.20	1.30	0.44	0.40
mH_2	$m = 2$	1.00	2.35	0.54	0.28	1.10	1.06	0.49	0.35
	$m = 5$	1.00	1.32	0.57	0.25	1.16	1.15	0.47	0.37
	$m = 10$	1.00	1.11	0.58	0.24	1.18	1.18	0.46	0.38
	$m = 20$	1.00	1.03	0.58	0.23	1.19	1.20	0.46	0.38
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.50	0.33	1.00	1.22	0.45	0.48
	$p = 0.5$	1.00	3.43	0.50	0.34	1.00	3.03	0.25	1.67
	$p = 0.9$	1.00	2.21	0.50	0.34	1.00	19.11	0.05	12.40

Table XLI. Tests for $H_2(c^2 = 4)$ using $F(X)$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	100	0.00 ± 0.0004	100	0.00 ± 0.0004	7615	0.21 ± 0.0039	5038	0.15 ± 0.0043
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9079	0.26 ± 0.0036	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1077	0.02 ± 0.0009	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	560	0.01 ± 0.0008	560	0.01 ± 0.0008	8223	0.26 ± 0.0045	7206	0.28 ± 0.0055
	$c^2 = 1.5$	1804	0.04 ± 0.0020	1804	0.04 ± 0.0020	8615	0.32 ± 0.0050	8406	0.37 ± 0.0058
	$c^2 = 2$	5006	0.15 ± 0.0042	5006	0.15 ± 0.0042	9030	0.40 ± 0.0055	9215	0.47 ± 0.0058
	$c^2 = 4$	9506	0.50 ± 0.0056	9506	0.50 ± 0.0056	9543	0.51 ± 0.0057	9524	0.50 ± 0.0056
	$c^2 = 10$	6115	0.18 ± 0.0044	6115	0.18 ± 0.0044	6995	0.26 ± 0.0054	9101	0.44 ± 0.0057
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8975	0.26 ± 0.0038	178	0.00 ± 0.0004
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	157	0.00 ± 0.0003	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9736	0.48 ± 0.0051	10	0.00 ± 0.0001
	$(1, 4)$	9188	0.36 ± 0.0048	9188	0.36 ± 0.0048	9518	0.50 ± 0.0056	9145	0.45 ± 0.0058
	$(1, 10)$	461	0.01 ± 0.0008	461	0.01 ± 0.0008	5705	0.20 ± 0.0050	7447	0.30 ± 0.0057
RRI	$p = 0.1$	121	0.00 ± 0.0004	121	0.00 ± 0.0004	1973	0.03 ± 0.0009	337	0.01 ± 0.0004
	$p = 0.5$	292	0.01 ± 0.0007	292	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	8	0.00 ± 0.0001	8	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	140	0.00 ± 0.0004	140	0.00 ± 0.0004	7430	0.21 ± 0.0041	4998	0.16 ± 0.0044
	0.5	251	0.01 ± 0.0006	251	0.01 ± 0.0006	7217	0.22 ± 0.0044	4991	0.15 ± 0.0043
	1	374	0.01 ± 0.0009	374	0.01 ± 0.0009	7111	0.23 ± 0.0046	4684	0.15 ± 0.0044
	3	1605	0.05 ± 0.0028	1605	0.05 ± 0.0028	4802	0.14 ± 0.0040	4029	0.13 ± 0.0043
	5.25	1332	0.03 ± 0.0021	1332	0.03 ± 0.0021	5863	0.21 ± 0.0050	3736	0.12 ± 0.0042
mH_2	$m = 2$	4435	0.15 ± 0.0044	4435	0.15 ± 0.0044	8572	0.38 ± 0.0057	9065	0.44 ± 0.0058
	$m = 5$	1469	0.04 ± 0.0023	1469	0.04 ± 0.0023	7635	0.28 ± 0.0053	7097	0.28 ± 0.0055
	$m = 10$	934	0.02 ± 0.0018	934	0.02 ± 0.0018	7335	0.26 ± 0.0051	5891	0.21 ± 0.0051
	$m = 20$	686	0.02 ± 0.0013	686	0.02 ± 0.0013	7250	0.25 ± 0.0051	5414	0.18 ± 0.0048
$RRI(H_2)$	$p = 0.1$	9053	0.41 ± 0.0055	9053	0.41 ± 0.0055	2524	0.04 ± 0.0014	1842	0.03 ± 0.0013
	$p = 0.5$	4673	0.11 ± 0.0030	4673	0.11 ± 0.0030	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	14	0.00 ± 0.0001	14	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XLII. Tests for $H_2(c^2 = 4)$ using $-log(F(X))$ or $-log(1 - F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.50	0.34	1.00	1.32	0.45	0.38	0.50	0.33	0.99	0.54	0.59	0.27
E_k	$k = 2$	0.50	0.34	1.00	0.84	0.55	0.21	0.50	0.33	0.99	0.29	0.69	0.13
	$k = 4$	0.50	0.33	0.99	0.46	0.65	0.11	0.50	0.33	0.99	0.16	0.77	0.06
	$k = 6$	0.50	0.33	0.99	0.32	0.70	0.08	0.50	0.33	0.99	0.11	0.81	0.04
H_2	$c^2 = 1.25$	0.50	0.34	1.00	1.27	0.46	0.38	0.50	0.33	1.00	0.60	0.57	0.29
	$c^2 = 1.5$	0.50	0.34	1.00	1.22	0.46	0.38	0.50	0.33	1.00	0.65	0.56	0.30
	$c^2 = 2$	0.50	0.34	1.00	1.15	0.47	0.37	0.50	0.33	1.00	0.74	0.54	0.32
	$c^2 = 4$	0.50	0.33	1.00	1.00	0.50	0.34	0.50	0.34	1.00	0.99	0.50	0.34
	$c^2 = 10$	0.50	0.33	1.00	0.87	0.53	0.28	0.50	0.34	1.00	1.47	0.48	0.33
Z	$-$	0.50	0.34	1.00	1.07	0.52	0.24	0.50	0.33	0.99	0.37	0.66	0.16
LN	$(1, 0.25)$	0.50	0.33	0.99	0.32	0.69	0.10	0.50	0.33	0.99	0.14	0.79	0.05
	$(1, 1)$	0.50	0.33	0.99	0.64	0.57	0.23	0.50	0.33	0.99	0.39	0.66	0.14
	$(1, 4)$	0.50	0.33	1.00	0.77	0.53	0.34	0.50	0.34	1.00	0.94	0.51	0.32
	$(1, 10)$	0.50	0.33	1.00	0.76	0.53	0.36	0.50	0.34	1.01	1.57	0.42	0.49
RRI	$p = 0.1$	0.50	0.34	1.00	1.32	0.46	0.38	0.50	0.33	1.00	0.54	0.59	0.27
	$p = 0.5$	0.50	0.34	1.02	1.30	0.46	0.38	0.50	0.34	1.00	0.55	0.59	0.27
	$p = 0.9$	0.50	0.39	1.08	1.13	0.50	0.36	0.50	0.36	1.04	0.58	0.61	0.26
$EARMA$	0.25	0.50	0.34	1.00	1.32	0.45	0.38	0.50	0.33	1.00	0.54	0.59	0.27
	0.5	0.50	0.34	1.01	1.33	0.46	0.38	0.50	0.33	1.00	0.54	0.59	0.27
	1	0.50	0.34	1.01	1.33	0.45	0.37	0.50	0.34	1.00	0.53	0.59	0.27
	3	0.50	0.37	1.06	1.26	0.47	0.37	0.50	0.34	1.02	0.52	0.59	0.27
	5.25	0.50	0.35	1.02	1.42	0.46	0.37	0.50	0.35	1.02	0.49	0.60	0.26
mH_2	$m = 2$	0.50	0.34	1.00	1.16	0.47	0.37	0.50	0.34	1.00	0.74	0.54	0.31
	$m = 5$	0.50	0.34	1.01	1.27	0.46	0.38	0.50	0.34	1.00	0.60	0.57	0.29
	$m = 10$	0.50	0.34	1.01	1.30	0.46	0.38	0.50	0.34	1.00	0.56	0.58	0.28
	$m = 20$	0.50	0.34	1.00	1.31	0.46	0.38	0.50	0.33	1.00	0.55	0.59	0.28
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.00	1.00	0.50	0.34	0.50	0.34	1.00	0.99	0.50	0.34
	$p = 0.5$	0.50	0.34	1.01	0.99	0.50	0.34	0.50	0.34	1.01	0.99	0.50	0.34
	$p = 0.9$	0.50	0.38	1.07	0.93	0.54	0.33	0.50	0.38	1.07	0.93	0.54	0.33

Table XLIII. Tests for $H_2(c^2 = 4)$ using $-log(F(X))$ or $-log(1 - F(X))$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p$-value]) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]
Exp	–	8828	0.37 ± 0.0054	5921	0.17 ± 0.0037	3299	0.08 ± 0.0026	9978	0.76 ± 0.0046	3709	0.07 ± 0.0019	24	0.00 ± 0.0001
E_k	$k = 2$	9736	0.57 ± 0.0056	707	0.02 ± 0.0004	63	0.01 ± 0.0002	10000	0.92 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	9993	0.81 ± 0.0042	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0009	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.90 ± 0.0029	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	1.00 ± 0.0004	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	8876	0.39 ± 0.0054	6721	0.22 ± 0.0046	4398	0.12 ± 0.0036	9947	0.72 ± 0.0050	6010	0.14 ± 0.0031	362	0.01 ± 0.0004
	$c^2 = 1.5$	9085	0.41 ± 0.0055	7546	0.27 ± 0.0051	5759	0.18 ± 0.0045	9930	0.68 ± 0.0052	7519	0.24 ± 0.0044	1815	0.03 ± 0.0013
	$c^2 = 2$	9203	0.44 ± 0.0056	8492	0.36 ± 0.0056	7450	0.29 ± 0.0055	9863	0.63 ± 0.0054	8840	0.39 ± 0.0055	6204	0.16 ± 0.0036
	$c^2 = 4$	9506	0.50 ± 0.0056	9469	0.50 ± 0.0057	9525	0.50 ± 0.0057	9492	0.50 ± 0.0056	9495	0.50 ± 0.0057	9500	0.50 ± 0.0057
	$c^2 = 10$	9702	0.56 ± 0.0056	8787	0.35 ± 0.0052	7586	0.27 ± 0.0052	8416	0.35 ± 0.0054	8610	0.41 ± 0.0059	6645	0.24 ± 0.0050
Z	–	9360	0.46 ± 0.0057	4474	0.07 ± 0.0013	2636	0.04 ± 0.0010	10000	0.87 ± 0.0034	1	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	10000	0.90 ± 0.0030	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9931	0.69 ± 0.0052	5278	0.10 ± 0.0022	1164	0.02 ± 0.0008	9999	0.85 ± 0.0037	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	9826	0.61 ± 0.0055	8579	0.34 ± 0.0052	6282	0.16 ± 0.0038	9581	0.52 ± 0.0057	9406	0.40 ± 0.0049	9340	0.36 ± 0.0045
	$(1, 10)$	9845	0.62 ± 0.0054	7534	0.23 ± 0.0042	4387	0.09 ± 0.0024	8101	0.32 ± 0.0053	2133	0.04 ± 0.0018	281	0.01 ± 0.0006
RRI	$p = 0.1$	8111	0.31 ± 0.0051	5594	0.15 ± 0.0036	3222	0.08 ± 0.0026	9930	0.69 ± 0.0052	3246	0.06 ± 0.0018	16	0.00 ± 0.0001
	$p = 0.5$	3973	0.09 ± 0.0029	3478	0.07 ± 0.0022	2195	0.04 ± 0.0017	8310	0.34 ± 0.0054	1657	0.03 ± 0.0014	92	0.00 ± 0.0003
	$p = 0.9$	362	0.01 ± 0.0007	74	0.00 ± 0.0002	8	0.00 ± 0.0001	1680	0.04 ± 0.0020	46	0.00 ± 0.0001	2	0.00 ± 0.0000
$EARMA$	0.25	8557	0.35 ± 0.0053	5914	0.17 ± 0.0037	3339	0.08 ± 0.0027	9896	0.65 ± 0.0053	3606	0.06 ± 0.0019	23	0.00 ± 0.0001
	0.5	8132	0.31 ± 0.0051	5860	0.17 ± 0.0037	3440	0.09 ± 0.0028	9634	0.54 ± 0.0057	3515	0.06 ± 0.0019	38	0.00 ± 0.0001
	1	7761	0.28 ± 0.0050	5527	0.16 ± 0.0037	3523	0.09 ± 0.0029	9121	0.44 ± 0.0058	3092	0.06 ± 0.0018	60	0.00 ± 0.0002
	3	899	0.02 ± 0.0011	4869	0.13 ± 0.0035	5136	0.15 ± 0.0039	4065	0.11 ± 0.0033	2244	0.06 ± 0.0025	821	0.02 ± 0.0012
	5.25	4170	0.11 ± 0.0033	3698	0.09 ± 0.0028	3237	0.08 ± 0.0031	4028	0.11 ± 0.0036	1373	0.03 ± 0.0017	448	0.01 ± 0.0010
mH_2	$m = 2$	8323	0.34 ± 0.0053	8102	0.33 ± 0.0055	7137	0.28 ± 0.0055	8982	0.42 ± 0.0057	7823	0.29 ± 0.0051	4850	0.12 ± 0.0035
	$m = 5$	7496	0.27 ± 0.0051	6405	0.22 ± 0.0046	4695	0.15 ± 0.0041	8881	0.42 ± 0.0060	5339	0.13 ± 0.0032	587	0.01 ± 0.0006
	$m = 10$	7588	0.28 ± 0.0052	6048	0.19 ± 0.0042	4156	0.12 ± 0.0036	9218	0.50 ± 0.0061	4338	0.09 ± 0.0026	198	0.00 ± 0.0003
	$m = 20$	8000	0.32 ± 0.0054	5954	0.18 ± 0.0040	3860	0.10 ± 0.0032	9641	0.59 ± 0.0060	3957	0.08 ± 0.0023	96	0.00 ± 0.0002
$RRI(H_2)$	$p = 0.1$	9125	0.43 ± 0.0056	9124	0.42 ± 0.0055	9041	0.41 ± 0.0055	9114	0.43 ± 0.0056	9097	0.42 ± 0.0056	9075	0.42 ± 0.0055
	$p = 0.5$	5510	0.16 ± 0.0039	5115	0.13 ± 0.0033	4696	0.11 ± 0.0030	5517	0.15 ± 0.0038	5125	0.13 ± 0.0034	4687	0.11 ± 0.0030
	$p = 0.9$	650	0.01 ± 0.0011	77	0.00 ± 0.0002	13	0.00 ± 0.0001	622	0.01 ± 0.0010	75	0.00 ± 0.0002	19	0.00 ± 0.0001

Table XLIV. Tests for $H_2(c^2 = 10)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.63	0.21	1.41	1.23	0.43	0.44
E_k	$k = 2$	1.00	0.50	0.71	0.09	1.53	2.43	0.35	0.47
	$k = 4$	1.00	0.25	0.76	0.04	1.61	8.60	0.27	0.47
	$k = 6$	1.00	0.17	0.77	0.02	1.64	16.36	0.22	0.47
H_2	$c^2 = 1.25$	1.00	1.24	0.61	0.23	1.36	1.19	0.44	0.42
	$c^2 = 1.5$	1.00	1.48	0.60	0.24	1.33	1.15	0.45	0.41
	$c^2 = 2$	1.00	1.95	0.58	0.27	1.27	1.11	0.47	0.39
	$c^2 = 4$	1.00	3.77	0.54	0.31	1.13	1.04	0.49	0.35
	$c^2 = 10$	1.00	8.64	0.50	0.33	1.00	0.99	0.50	0.33
Z	$-$	1.00	0.95	0.68	0.12	1.48	1.75	0.39	0.45
LN	$(1, 0.25)$	1.00	0.25	0.76	0.03	1.61	17.29	0.24	0.42
	$(1, 1)$	1.00	0.97	0.68	0.11	1.44	3.15	0.38	0.40
	$(1, 4)$	1.00	3.45	0.55	0.29	1.18	1.18	0.47	0.37
	$(1, 10)$	1.00	6.76	0.47	0.47	1.01	1.30	0.47	0.38
RRI	$p = 0.1$	1.00	0.99	0.63	0.21	1.41	1.48	0.39	0.61
	$p = 0.5$	1.00	0.98	0.63	0.21	1.41	3.45	0.22	1.90
	$p = 0.9$	1.00	0.88	0.63	0.21	1.41	20.31	0.05	13.08
$EARMA$	0.25	1.00	0.99	0.63	0.21	1.41	1.23	0.43	0.45
	0.5	1.00	0.99	0.63	0.21	1.41	1.23	0.43	0.45
	1	1.00	0.97	0.63	0.21	1.41	1.24	0.43	0.45
	3	1.00	0.97	0.63	0.21	1.41	1.29	0.43	0.45
	5.25	1.00	0.90	0.63	0.21	1.41	1.32	0.42	0.47
mH_2	$m = 2$	1.00	2.35	0.58	0.26	1.27	1.11	0.47	0.38
	$m = 5$	1.00	1.32	0.61	0.23	1.36	1.18	0.44	0.42
	$m = 10$	1.00	1.11	0.62	0.22	1.38	1.21	0.43	0.44
	$m = 20$	1.00	1.03	0.62	0.22	1.39	1.22	0.43	0.44
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.54	0.31	1.13	1.27	0.44	0.50
	$p = 0.5$	1.00	3.43	0.54	0.31	1.13	3.08	0.25	1.70
	$p = 0.9$	1.00	2.21	0.54	0.31	1.13	19.09	0.05	12.43

Table XLV. Tests for $H_2(c^2 = 10)$ using $F(X)$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	456	0.01 ± 0.0005	1264	0.03 ± 0.0017
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1551	0.03 ± 0.0009	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8060	0.18 ± 0.0030	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1964	0.04 ± 0.0014	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	2	0.00 ± 0.0000	2	0.00 ± 0.0000	874	0.02 ± 0.0008	2707	0.07 ± 0.0028
	$c^2 = 1.5$	45	0.00 ± 0.0001	45	0.00 ± 0.0001	1660	0.03 ± 0.0012	4259	0.13 ± 0.0040
	$c^2 = 2$	397	0.01 ± 0.0007	397	0.01 ± 0.0007	3422	0.07 ± 0.0023	6609	0.24 ± 0.0053
	$c^2 = 4$	6005	0.19 ± 0.0045	6005	0.19 ± 0.0045	8078	0.30 ± 0.0052	9228	0.46 ± 0.0058
	$c^2 = 10$	9448	0.50 ± 0.0057	9448	0.50 ± 0.0057	9509	0.50 ± 0.0056	9541	0.50 ± 0.0057
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1011	0.02 ± 0.0007	11	0.00 ± 0.0001
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	6490	0.17 ± 0.0037	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4660	0.09 ± 0.0025	0	0.00 ± 0.0000
	$(1, 4)$	4035	0.09 ± 0.0026	4035	0.09 ± 0.0026	7595	0.25 ± 0.0048	7421	0.29 ± 0.0056
	$(1, 10)$	1967	0.03 ± 0.0013	1967	0.03 ± 0.0013	8452	0.38 ± 0.0058	6652	0.25 ± 0.0054
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	146	0.01 ± 0.0002	24	0.00 ± 0.0001
	$p = 0.5$	16	0.00 ± 0.0002	16	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	2	0.00 ± 0.0000	2	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	1	0.00 ± 0.0000	1	0.00 ± 0.0000	508	0.01 ± 0.0006	1363	0.03 ± 0.0020
	0.5	6	0.00 ± 0.0001	6	0.00 ± 0.0001	716	0.01 ± 0.0009	1457	0.04 ± 0.0021
	1	12	0.00 ± 0.0002	12	0.00 ± 0.0002	968	0.02 ± 0.0013	1573	0.04 ± 0.0024
	3	516	0.02 ± 0.0016	516	0.02 ± 0.0016	1521	0.04 ± 0.0022	2525	0.08 ± 0.0036
	5.25	515	0.01 ± 0.0015	515	0.01 ± 0.0015	2477	0.08 ± 0.0036	2125	0.07 ± 0.0034
mH_2	$m = 2$	632	0.02 ± 0.0013	632	0.02 ± 0.0013	3664	0.09 ± 0.0030	6631	0.26 ± 0.0055
	$m = 5$	110	0.00 ± 0.0004	110	0.00 ± 0.0004	1819	0.04 ± 0.0020	3196	0.10 ± 0.0036
	$m = 10$	63	0.00 ± 0.0003	63	0.00 ± 0.0003	1462	0.03 ± 0.0017	2356	0.07 ± 0.0030
	$m = 20$	28	0.00 ± 0.0003	28	0.00 ± 0.0003	1285	0.03 ± 0.0015	1958	0.06 ± 0.0028
$RRI(H_2)$	$p = 0.1$	5431	0.17 ± 0.0043	5431	0.17 ± 0.0043	2415	0.04 ± 0.0012	1390	0.03 ± 0.0011
	$p = 0.5$	2867	0.06 ± 0.0023	2867	0.06 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	15	0.00 ± 0.0001	15	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table XLVI. Tests for $H_2(c^2 = 10)$ using $-log(F(X))$ or $-log(1 - F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.01	1.57	0.42	0.48	0.50	0.33	0.99	0.53	0.59	0.28
E_k	$k = 2$	0.50	0.34	1.00	1.07	0.50	0.28	0.50	0.33	0.99	0.30	0.69	0.14
	$k = 4$	0.50	0.33	0.99	0.62	0.60	0.16	0.50	0.33	0.99	0.17	0.77	0.07
	$k = 6$	0.50	0.33	0.99	0.43	0.66	0.11	0.50	0.33	0.99	0.12	0.81	0.04
H_2	$c^2 = 1.25$	0.50	0.34	1.00	1.49	0.42	0.48	0.50	0.33	1.00	0.58	0.57	0.30
	$c^2 = 1.5$	0.50	0.34	1.01	1.42	0.43	0.47	0.50	0.33	1.00	0.63	0.56	0.31
	$c^2 = 2$	0.50	0.34	1.00	1.33	0.44	0.45	0.50	0.33	1.00	0.69	0.54	0.33
	$c^2 = 4$	0.50	0.34	1.00	1.14	0.47	0.40	0.50	0.33	1.00	0.84	0.51	0.34
	$c^2 = 10$	0.50	0.34	1.00	1.00	0.50	0.33	0.50	0.34	1.00	0.99	0.50	0.33
Z	–	0.50	0.34	1.00	1.34	0.47	0.32	0.50	0.33	0.99	0.36	0.66	0.17
LN	$(1, 0.25)$	0.50	0.33	0.99	0.43	0.65	0.14	0.50	0.33	0.99	0.15	0.78	0.05
	$(1, 1)$	0.50	0.33	1.00	0.78	0.53	0.30	0.50	0.33	0.99	0.38	0.65	0.14
	$(1, 4)$	0.50	0.33	1.00	0.88	0.50	0.40	0.50	0.33	1.00	0.82	0.52	0.33
	$(1, 10)$	0.50	0.34	1.00	0.84	0.51	0.41	0.50	0.34	1.00	1.24	0.44	0.50
RRI	$p = 0.1$	0.50	0.34	1.01	1.56	0.42	0.48	0.50	0.33	1.00	0.53	0.59	0.28
	$p = 0.5$	0.50	0.35	1.03	1.54	0.42	0.48	0.50	0.34	1.00	0.54	0.59	0.28
	$p = 0.9$	0.50	0.40	1.10	1.38	0.47	0.46	0.50	0.36	1.05	0.59	0.61	0.27
$EARMA$	0.25	0.50	0.34	1.01	1.57	0.42	0.48	0.50	0.33	1.00	0.53	0.59	0.28
	0.5	0.50	0.34	1.01	1.57	0.42	0.48	0.50	0.33	1.00	0.53	0.59	0.28
	1	0.50	0.34	1.01	1.58	0.42	0.48	0.50	0.34	1.00	0.53	0.59	0.28
	3	0.50	0.37	1.07	1.53	0.43	0.46	0.50	0.34	1.02	0.52	0.59	0.28
	5.25	0.50	0.35	1.02	1.70	0.42	0.47	0.50	0.35	1.02	0.49	0.60	0.27
mH_2	$m = 2$	0.50	0.34	1.01	1.35	0.44	0.45	0.50	0.34	1.00	0.67	0.55	0.32
	$m = 5$	0.50	0.34	1.01	1.49	0.43	0.47	0.50	0.34	1.00	0.58	0.57	0.30
	$m = 10$	0.50	0.34	1.01	1.53	0.42	0.47	0.50	0.34	1.00	0.55	0.58	0.29
	$m = 20$	0.50	0.34	1.01	1.55	0.42	0.47	0.50	0.33	1.00	0.54	0.58	0.28
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.00	1.14	0.47	0.40	0.50	0.34	1.00	0.84	0.51	0.34
	$p = 0.5$	0.50	0.34	1.02	1.13	0.48	0.40	0.50	0.34	1.01	0.85	0.52	0.34
	$p = 0.9$	0.50	0.38	1.09	1.08	0.51	0.39	0.50	0.37	1.07	0.85	0.55	0.33

Table XLVII. Tests for $H_2(c^2 = 10)$ using $-log(F(X))$ or $-log(1 - F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	8161	0.31 ± 0.0050	1694	0.03 ± 0.0016	236	0.01 ± 0.0006	9978	0.76 ± 0.0046	3771	0.06 ± 0.0015	14	0.00 ± 0.0001
E_k	$k = 2$	9358	0.47 ± 0.0056	7963	0.12 ± 0.0016	7108	0.09 ± 0.0012	10000	0.91 ± 0.0027	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	9933	0.70 ± 0.0050	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0010	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	9992	0.82 ± 0.0040	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	8374	0.33 ± 0.0051	2252	0.05 ± 0.0019	445	0.01 ± 0.0008	9957	0.72 ± 0.0049	6007	0.12 ± 0.0024	118	0.00 ± 0.0002
	$c^2 = 1.5$	8563	0.34 ± 0.0053	2971	0.06 ± 0.0024	878	0.02 ± 0.0012	9943	0.70 ± 0.0051	7414	0.19 ± 0.0034	711	0.01 ± 0.0006
	$c^2 = 2$	8783	0.37 ± 0.0054	4569	0.11 ± 0.0032	2062	0.05 ± 0.0022	9898	0.65 ± 0.0053	8669	0.32 ± 0.0046	3635	0.06 ± 0.0016
	$c^2 = 4$	9222	0.44 ± 0.0056	8439	0.32 ± 0.0052	7282	0.26 ± 0.0052	9743	0.57 ± 0.0056	9563	0.50 ± 0.0055	9460	0.39 ± 0.0048
	$c^2 = 10$	9505	0.50 ± 0.0057	9503	0.49 ± 0.0057	9486	0.50 ± 0.0056	9521	0.50 ± 0.0057	9505	0.50 ± 0.0056	9505	0.50 ± 0.0057
Z	–	8716	0.37 ± 0.0054	7446	0.19 ± 0.0031	5507	0.11 ± 0.0025	10000	0.87 ± 0.0033	1	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	9995	0.82 ± 0.0040	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0008	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9822	0.60 ± 0.0055	9153	0.33 ± 0.0039	7496	0.20 ± 0.0032	9999	0.86 ± 0.0036	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	9679	0.55 ± 0.0056	7582	0.21 ± 0.0040	6686	0.15 ± 0.0033	9772	0.58 ± 0.0055	9471	0.38 ± 0.0046	8444	0.20 ± 0.0032
	$(1, 10)$	9749	0.57 ± 0.0056	6113	0.13 ± 0.0030	4469	0.08 ± 0.0020	8959	0.40 ± 0.0055	2268	0.04 ± 0.0016	425	0.01 ± 0.0007
RRI	$p = 0.1$	7354	0.25 ± 0.0047	1760	0.04 ± 0.0018	284	0.01 ± 0.0007	9930	0.69 ± 0.0052	3206	0.05 ± 0.0015	7	0.00 ± 0.0001
	$p = 0.5$	3032	0.07 ± 0.0024	1579	0.03 ± 0.0016	556	0.01 ± 0.0010	8329	0.34 ± 0.0054	1604	0.03 ± 0.0013	42	0.00 ± 0.0002
	$p = 0.9$	205	0.00 ± 0.0005	66	0.00 ± 0.0002	10	0.00 ± 0.0001	1631	0.04 ± 0.0019	49	0.00 ± 0.0001	2	0.00 ± 0.0000
$EARMA$	0.25	7921	0.28 ± 0.0049	1864	0.04 ± 0.0018	308	0.01 ± 0.0006	9912	0.66 ± 0.0053	3640	0.06 ± 0.0016	15	0.00 ± 0.0001
	0.5	7401	0.25 ± 0.0047	2035	0.04 ± 0.0020	380	0.01 ± 0.0008	9662	0.55 ± 0.0057	3465	0.06 ± 0.0017	21	0.00 ± 0.0001
	1	7012	0.23 ± 0.0046	2301	0.05 ± 0.0024	608	0.01 ± 0.0013	9187	0.45 ± 0.0058	2992	0.05 ± 0.0016	41	0.00 ± 0.0001
	3	561	0.01 ± 0.0008	3670	0.10 ± 0.0035	2470	0.08 ± 0.0033	4081	0.11 ± 0.0033	2163	0.05 ± 0.0023	708	0.01 ± 0.0011
	5.25	3564	0.09 ± 0.0029	2755	0.08 ± 0.0031	1920	0.06 ± 0.0031	4060	0.11 ± 0.0036	1356	0.03 ± 0.0017	428	0.01 ± 0.0010
mH_2	$m = 2$	7793	0.28 ± 0.0050	4552	0.12 ± 0.0037	2339	0.06 ± 0.0028	9226	0.46 ± 0.0058	7649	0.26 ± 0.0047	2860	0.05 ± 0.0017
	$m = 5$	6822	0.22 ± 0.0046	2844	0.07 ± 0.0028	978	0.02 ± 0.0017	9022	0.44 ± 0.0060	5198	0.11 ± 0.0029	375	0.01 ± 0.0004
	$m = 10$	6903	0.23 ± 0.0047	2495	0.06 ± 0.0026	758	0.02 ± 0.0015	9317	0.51 ± 0.0061	4180	0.08 ± 0.0023	157	0.00 ± 0.0003
	$m = 20$	7342	0.26 ± 0.0049	2320	0.06 ± 0.0024	607	0.01 ± 0.0011	9672	0.60 ± 0.0059	3876	0.07 ± 0.0020	81	0.00 ± 0.0002
$RRI(H_2)$	$p = 0.1$	8725	0.37 ± 0.0054	7884	0.28 ± 0.0049	6661	0.23 ± 0.0049	9491	0.49 ± 0.0056	9195	0.42 ± 0.0055	8974	0.33 ± 0.0046
	$p = 0.5$	4757	0.12 ± 0.0034	4378	0.10 ± 0.0030	3613	0.08 ± 0.0027	6197	0.18 ± 0.0041	5212	0.13 ± 0.0033	4205	0.09 ± 0.0025
	$p = 0.9$	446	0.01 ± 0.0009	67	0.00 ± 0.0002	16	0.00 ± 0.0001	664	0.01 ± 0.0010	82	0.00 ± 0.0002	11	0.00 ± 0.0001

Table XLVIII. Tests for $LN(1, 0.25)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	1.00	1.00	0.41	0.92	1.23	2.07	0.31	0.95
E_k	$k = 2$	1.00	0.50	0.46	0.60	1.11	1.40	0.42	0.52
	$k = 4$	1.00	0.25	0.50	0.37	1.02	1.07	0.49	0.36
	$k = 6$	1.00	0.17	0.52	0.27	0.98	1.09	0.49	0.34
H_2	$c^2 = 1.25$	1.00	1.24	0.39	1.02	1.24	2.28	0.30	1.03
	$c^2 = 1.5$	1.00	1.48	0.37	1.10	1.24	2.51	0.29	1.10
	$c^2 = 2$	1.00	1.95	0.35	1.24	1.24	2.97	0.28	1.21
	$c^2 = 4$	1.00	3.77	0.29	1.58	1.19	4.91	0.25	1.42
	$c^2 = 10$	1.00	8.64	0.24	1.94	1.01	9.96	0.24	1.57
Z	–	1.00	0.95	0.44	0.69	1.12	1.71	0.40	0.60
LN	$(1, 0.25)$	1.00	0.25	0.50	0.34	1.00	1.00	0.50	0.33
	$(1, 1)$	1.00	0.97	0.40	0.81	1.13	1.91	0.38	0.65
	$(1, 4)$	1.00	3.45	0.30	1.55	1.20	3.82	0.24	1.49
	$(1, 10)$	1.00	6.76	0.25	2.19	1.18	5.39	0.18	2.25
RRI	$p = 0.1$	1.00	0.99	0.41	0.93	1.23	2.42	0.28	1.17
	$p = 0.5$	1.00	0.98	0.41	0.93	1.23	5.21	0.16	2.94
	$p = 0.9$	1.00	0.88	0.41	1.03	1.23	29.91	0.03	19.82
$EARMA$	0.25	1.00	0.99	0.41	0.92	1.23	2.07	0.31	0.95
	0.5	1.00	0.99	0.41	0.93	1.23	2.06	0.31	0.95
	1	1.00	0.97	0.41	0.93	1.23	2.07	0.31	0.95
	3	1.00	0.97	0.41	0.96	1.23	2.02	0.32	0.97
	5.25	1.00	0.90	0.41	0.95	1.23	2.13	0.31	0.98
mH_2	$m = 2$	1.00	2.35	0.35	1.21	1.21	2.98	0.29	1.15
	$m = 5$	1.00	1.32	0.38	1.03	1.23	2.30	0.30	1.03
	$m = 10$	1.00	1.11	0.40	0.98	1.23	2.17	0.31	0.99
	$m = 20$	1.00	1.03	0.40	0.96	1.23	2.12	0.31	0.97
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.29	1.58	1.19	5.59	0.23	1.70
	$p = 0.5$	1.00	3.43	0.29	1.61	1.19	10.76	0.13	3.90
	$p = 0.9$	1.00	2.21	0.29	1.82	1.19	45.96	0.03	25.31

Table XLIX. Tests for $LN(1, 0.25)$ using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k = 2$	14	0.00 ± 0.0001	14	0.00 ± 0.0001	3840	0.07 ± 0.0021	581	0.01 ± 0.0008
	$k = 4$	8514	0.30 ± 0.0048	8514	0.30 ± 0.0048	9506	0.49 ± 0.0056	9158	0.45 ± 0.0058
	$k = 6$	6344	0.19 ± 0.0042	6344	0.19 ± 0.0042	9459	0.50 ± 0.0057	9157	0.46 ± 0.0058
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	778	0.01 ± 0.0007	48	0.00 ± 0.0002
LN	$(1, 0.25)$	9480	0.50 ± 0.0057	9480	0.50 ± 0.0057	9487	0.50 ± 0.0056	9509	0.50 ± 0.0056
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	359	0.01 ± 0.0005	7	0.00 ± 0.0001
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	0	0.00 ± 0.0000	24	0.00 ± 0.0002	3	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table L. Tests for $LN(1, 0.25)$ using $-log(F(X))$ or $-log(1 - F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.50	0.35	1.04	4.16	0.26	1.05	0.50	0.34	1.03	2.48	0.30	1.17
E_k	$k = 2$	0.50	0.34	1.02	2.71	0.34	0.69	0.50	0.34	1.01	1.55	0.39	0.69
	$k = 4$	0.50	0.34	1.01	1.57	0.44	0.40	0.50	0.33	1.00	0.93	0.50	0.39
	$k = 6$	0.50	0.34	1.00	1.10	0.50	0.28	0.50	0.33	1.00	0.67	0.56	0.27
H_2	$c^2 = 1.25$	0.50	0.35	1.03	3.92	0.27	1.01	0.50	0.34	1.04	2.91	0.27	1.31
	$c^2 = 1.5$	0.50	0.35	1.03	3.72	0.28	0.97	0.50	0.34	1.04	3.33	0.25	1.44
	$c^2 = 2$	0.50	0.34	1.03	3.48	0.29	0.91	0.50	0.35	1.05	4.07	0.22	1.64
	$c^2 = 4$	0.50	0.34	1.03	3.01	0.32	0.77	0.50	0.35	1.08	6.43	0.17	2.17
	$c^2 = 10$	0.50	0.34	1.02	2.68	0.34	0.66	0.50	0.37	1.13	10.68	0.13	2.53
Z	$-$	0.50	0.35	1.03	3.99	0.30	0.76	0.50	0.34	1.02	2.26	0.35	0.80
LN	$(1, 0.25)$	0.50	0.34	1.00	0.99	0.50	0.33	0.50	0.33	1.00	0.99	0.50	0.34
	$(1, 1)$	0.50	0.34	1.01	1.64	0.40	0.61	0.50	0.34	1.03	2.65	0.31	0.97
	$(1, 4)$	0.50	0.34	1.01	1.80	0.37	0.72	0.50	0.35	1.07	5.33	0.19	2.10
	$(1, 10)$	0.50	0.34	1.01	1.73	0.38	0.71	0.50	0.36	1.12	7.40	0.14	3.09
RRI	$p = 0.1$	0.50	0.35	1.04	4.13	0.26	1.05	0.50	0.34	1.04	2.52	0.30	1.17
	$p = 0.5$	0.50	0.37	1.08	3.98	0.27	1.07	0.50	0.35	1.08	2.95	0.31	1.18
	$p = 0.9$	0.50	0.47	1.25	3.81	0.33	1.09	0.50	0.45	1.33	5.80	0.34	1.23
$EARMA$	0.25	0.50	0.35	1.04	4.17	0.26	1.05	0.50	0.34	1.04	2.49	0.30	1.17
	0.5	0.50	0.35	1.04	4.16	0.26	1.06	0.50	0.35	1.05	2.49	0.30	1.17
	1	0.50	0.35	1.04	4.22	0.26	1.06	0.50	0.35	1.06	2.42	0.30	1.17
	3	0.50	0.43	1.17	3.97	0.29	1.05	0.50	0.38	1.14	2.21	0.31	1.19
	5.25	0.50	0.36	1.06	4.60	0.26	1.09	0.50	0.40	1.15	2.16	0.31	1.16
mH_2	$m = 2$	0.50	0.35	1.03	3.53	0.29	0.92	0.50	0.36	1.07	4.34	0.23	1.55
	$m = 5$	0.50	0.35	1.04	3.93	0.27	1.01	0.50	0.36	1.06	2.99	0.27	1.31
	$m = 10$	0.50	0.35	1.04	4.06	0.27	1.03	0.50	0.35	1.05	2.68	0.29	1.24
	$m = 20$	0.50	0.35	1.04	4.10	0.26	1.04	0.50	0.35	1.04	2.56	0.30	1.21
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.03	3.00	0.32	0.78	0.50	0.36	1.09	6.48	0.17	2.18
	$p = 0.5$	0.50	0.36	1.06	2.95	0.33	0.78	0.50	0.39	1.17	7.02	0.17	2.20
	$p = 0.9$	0.50	0.43	1.22	3.36	0.38	0.80	0.50	0.57	1.57	10.56	0.23	2.26

Table LI. Tests for $LN(1, 0.25)$ using $-log(F(X))$ or $-log(1 - F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p$-value$]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1 - F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p$-value$]$	$\#P$	$E[p$-value$]$	$\#P$	$E[p$-value$]$	$\#P$	$E[p$-value$]$	$\#P$	$E[p$-value$]$	$\#P$	$E[p$-value$]$
Exp	$-$	2985	0.06 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000	6235	0.17 ± 0.0038	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k = 2$	5224	0.14 ± 0.0036	16	0.00 ± 0.0001	0	0.00 ± 0.0000	8299	0.32 ± 0.0051	7	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 4$	8182	0.31 ± 0.0051	5614	0.19 ± 0.0047	2050	0.05 ± 0.0025	9628	0.53 ± 0.0056	8996	0.34 ± 0.0049	8716	0.30 ± 0.0046
	$k = 6$	9290	0.46 ± 0.0057	8766	0.33 ± 0.0049	8402	0.28 ± 0.0045	9913	0.67 ± 0.0053	5951	0.17 ± 0.0040	1865	0.04 ± 0.0018
H_2	$c^2 = 1.25$	3269	0.07 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5182	0.13 ± 0.0033	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 1.5$	3519	0.08 ± 0.0025	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4237	0.10 ± 0.0028	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	3911	0.09 ± 0.0028	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3046	0.06 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	4715	0.12 ± 0.0032	2	0.00 ± 0.0000	0	0.00 ± 0.0000	1001	0.02 ± 0.0009	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	5394	0.14 ± 0.0036	83	0.00 ± 0.0002	1	0.00 ± 0.0000	116	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	3361	0.08 ± 0.0026	1	0.00 ± 0.0000	0	0.00 ± 0.0000	6502	0.20 ± 0.0043	1	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	9506	0.50 ± 0.0057	9501	0.50 ± 0.0057	9481	0.50 ± 0.0057	9493	0.50 ± 0.0057	9482	0.50 ± 0.0057	9472	0.50 ± 0.0057
	$(1, 1)$	7953	0.29 ± 0.0050	200	0.00 ± 0.0004	16	0.00 ± 0.0001	5433	0.14 ± 0.0035	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	7569	0.26 ± 0.0047	1	0.00 ± 0.0000	0	0.00 ± 0.0000	1742	0.03 ± 0.0014	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	7839	0.28 ± 0.0049	2	0.00 ± 0.0000	0	0.00 ± 0.0000	679	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	2364	0.05 ± 0.0018	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5144	0.13 ± 0.0034	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	496	0.01 ± 0.0007	2	0.00 ± 0.0000	0	0.00 ± 0.0000	1344	0.02 ± 0.0012	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	18	0.00 ± 0.0001	4	0.00 ± 0.0000	0	0.00 ± 0.0000	39	0.00 ± 0.0002	1	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	2780	0.06 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4154	0.10 ± 0.0028	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	2556	0.05 ± 0.0020	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2749	0.06 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	2489	0.05 ± 0.0019	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1565	0.03 ± 0.0015	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	57	0.00 ± 0.0002	15	0.00 ± 0.0001	1	0.00 ± 0.0000	220	0.00 ± 0.0005	4	0.00 ± 0.0001	3	0.00 ± 0.0000
	5.25	1211	0.02 ± 0.0012	62	0.00 ± 0.0003	4	0.00 ± 0.0001	117	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
mH_2	$m = 2$	3143	0.07 ± 0.0023	1	0.00 ± 0.0000	0	0.00 ± 0.0000	1166	0.02 ± 0.0011	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	2356	0.05 ± 0.0019	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1666	0.03 ± 0.0016	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 10$	2430	0.05 ± 0.0020	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2593	0.06 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 20$	2655	0.05 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3769	0.09 ± 0.0030	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	3994	0.09 ± 0.0028	4	0.00 ± 0.0000	0	0.00 ± 0.0000	685	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	1216	0.02 ± 0.0012	42	0.00 ± 0.0002	2	0.00 ± 0.0000	74	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	78	0.00 ± 0.0003	15	0.00 ± 0.0001	2	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table LII. Tests for $LN(1, 1)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.48	0.50	1.01	1.28	0.45	0.45
E_k	$k = 2$	1.00	0.50	0.54	0.26	1.04	1.15	0.48	0.36
	$k = 4$	1.00	0.25	0.59	0.13	1.06	2.22	0.41	0.40
	$k = 6$	1.00	0.17	0.61	0.08	1.06	4.71	0.35	0.42
H_2	$c^2 = 1.25$	1.00	1.24	0.46	0.55	1.00	1.30	0.44	0.47
	$c^2 = 1.5$	1.00	1.48	0.44	0.59	0.98	1.34	0.43	0.49
	$c^2 = 2$	1.00	1.95	0.42	0.66	0.96	1.43	0.42	0.52
	$c^2 = 4$	1.00	3.77	0.37	0.80	0.88	1.93	0.40	0.60
	$c^2 = 10$	1.00	8.64	0.32	0.91	0.76	3.28	0.37	0.67
Z	$-$	1.00	0.95	0.52	0.32	1.02	1.14	0.48	0.37
LN	$(1, 0.25)$	1.00	0.25	0.60	0.10	1.05	4.31	0.38	0.39
	$(1, 1)$	1.00	0.97	0.50	0.34	1.00	0.99	0.50	0.34
	$(1, 4)$	1.00	3.45	0.38	0.80	0.90	1.70	0.40	0.56
	$(1, 10)$	1.00	6.76	0.31	1.22	0.82	2.58	0.32	0.88
RRI	$p = 0.1$	1.00	0.99	0.48	0.50	1.01	1.54	0.40	0.62
	$p = 0.5$	1.00	0.98	0.48	0.50	1.02	3.59	0.22	1.92
	$p = 0.9$	1.00	0.88	0.48	0.53	1.01	21.94	0.05	13.80
$EARMA$	0.25	1.00	0.99	0.48	0.50	1.02	1.28	0.45	0.45
	0.5	1.00	0.99	0.48	0.50	1.02	1.28	0.45	0.46
	1	1.00	0.97	0.48	0.50	1.02	1.29	0.44	0.46
	3	1.00	0.97	0.48	0.51	1.02	1.23	0.45	0.46
	5.25	1.00	0.90	0.48	0.50	1.02	1.35	0.43	0.48
mH_2	$m = 2$	1.00	2.35	0.42	0.64	0.95	1.41	0.43	0.51
	$m = 5$	1.00	1.32	0.46	0.55	0.99	1.30	0.44	0.48
	$m = 10$	1.00	1.11	0.47	0.53	1.01	1.29	0.44	0.47
	$m = 20$	1.00	1.03	0.47	0.51	1.01	1.29	0.44	0.46
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.37	0.80	0.88	2.28	0.36	0.78
	$p = 0.5$	1.00	3.43	0.37	0.80	0.88	4.94	0.20	2.23
	$p = 0.9$	1.00	2.21	0.37	0.84	0.88	26.79	0.04	15.71

Table LIII. Tests for $LN(1,1)$ using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	531	0.01 ± 0.0005	531	0.01 ± 0.0005	6308	0.17 ± 0.0039	3580	0.09 ± 0.0030
E_k	$k = 2$	3064	0.08 ± 0.0028	3064	0.08 ± 0.0028	9682	0.53 ± 0.0054	8507	0.38 ± 0.0058
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5417	0.14 ± 0.0036	125	0.00 ± 0.0003
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	175	0.00 ± 0.0003	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	148	0.00 ± 0.0003	148	0.00 ± 0.0003	4978	0.12 ± 0.0033	2604	0.06 ± 0.0024
	$c^2 = 1.5$	42	0.00 ± 0.0001	42	0.00 ± 0.0001	3792	0.09 ± 0.0027	1823	0.04 ± 0.0018
	$c^2 = 2$	4	0.00 ± 0.0000	4	0.00 ± 0.0000	1998	0.04 ± 0.0019	783	0.02 ± 0.0011
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	133	0.00 ± 0.0004	43	0.00 ± 0.0002
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	6923	0.22 ± 0.0044	6923	0.22 ± 0.0044	9414	0.47 ± 0.0056	8486	0.37 ± 0.0058
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2406	0.05 ± 0.0020	1	0.00 ± 0.0000
	$(1, 1)$	9497	0.50 ± 0.0057	9497	0.50 ± 0.0057	9519	0.50 ± 0.0056	9510	0.50 ± 0.0056
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	378	0.01 ± 0.0008	140	0.00 ± 0.0004
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	528	0.01 ± 0.0006	528	0.01 ± 0.0006	75	0.00 ± 0.0002	9	0.00 ± 0.0001
	$p = 0.5$	377	0.01 ± 0.0005	377	0.01 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	3	0.00 ± 0.0000	3	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	479	0.01 ± 0.0005	479	0.01 ± 0.0005	6171	0.16 ± 0.0038	3472	0.09 ± 0.0030
	0.5	413	0.01 ± 0.0005	413	0.01 ± 0.0005	5879	0.15 ± 0.0037	3490	0.08 ± 0.0029
	1	449	0.01 ± 0.0005	449	0.01 ± 0.0005	5498	0.14 ± 0.0036	3283	0.08 ± 0.0029
	3	1257	0.03 ± 0.0018	1257	0.03 ± 0.0018	3684	0.10 ± 0.0036	3730	0.12 ± 0.0042
	5.25	532	0.01 ± 0.0007	532	0.01 ± 0.0007	3626	0.09 ± 0.0030	2371	0.06 ± 0.0026
mH_2	$m = 2$	21	0.00 ± 0.0001	21	0.00 ± 0.0001	2374	0.05 ± 0.0020	1059	0.02 ± 0.0013
	$m = 5$	166	0.00 ± 0.0003	166	0.00 ± 0.0003	4317	0.10 ± 0.0031	2442	0.05 ± 0.0023
	$m = 10$	265	0.01 ± 0.0004	265	0.01 ± 0.0004	4852	0.12 ± 0.0032	2871	0.07 ± 0.0025
	$m = 20$	365	0.01 ± 0.0004	365	0.01 ± 0.0004	5098	0.13 ± 0.0035	3050	0.07 ± 0.0028
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	4	0.00 ± 0.0000	4	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table LIV. Tests for $LN(1,1)$ using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.50	0.34	1.02	3.02	0.34	0.60	0.50	0.34	1.01	1.15	0.45	0.55
E_k	$k=2$	0.50	0.34	1.00	1.54	0.46	0.32	0.50	0.33	1.00	0.63	0.57	0.28
	$k=4$	0.50	0.33	1.00	0.73	0.59	0.17	0.50	0.33	0.99	0.33	0.68	0.14
	$k=6$	0.50	0.33	0.99	0.47	0.65	0.11	0.50	0.33	0.99	0.23	0.73	0.09
H_2	$c^2=1.25$	0.50	0.34	1.02	2.89	0.34	0.60	0.50	0.34	1.01	1.33	0.42	0.60
	$c^2=1.5$	0.50	0.34	1.02	2.77	0.35	0.60	0.50	0.34	1.01	1.50	0.40	0.64
	$c^2=2$	0.50	0.34	1.02	2.62	0.36	0.58	0.50	0.34	1.01	1.80	0.37	0.71
	$c^2=4$	0.50	0.34	1.01	2.30	0.38	0.51	0.50	0.34	1.02	2.70	0.32	0.82
	$c^2=10$	0.50	0.34	1.01	2.06	0.41	0.43	0.50	0.35	1.04	4.09	0.29	0.84
Z	$-$	0.50	0.34	1.01	2.46	0.41	0.37	0.50	0.33	1.00	0.85	0.53	0.33
LN	$(1,0.25)$	0.50	0.33	0.99	0.47	0.64	0.15	0.50	0.33	0.99	0.32	0.69	0.10
	$(1,1)$	0.50	0.34	1.00	1.00	0.50	0.33	0.50	0.33	1.00	0.99	0.50	0.33
	$(1,4)$	0.50	0.34	1.00	1.33	0.44	0.49	0.50	0.34	1.02	2.36	0.33	0.84
	$(1,10)$	0.50	0.34	1.01	1.39	0.43	0.53	0.50	0.34	1.04	3.64	0.25	1.32
RRI	$p=0.1$	0.50	0.35	1.02	2.99	0.34	0.60	0.50	0.34	1.01	1.16	0.45	0.55
	$p=0.5$	0.50	0.36	1.05	2.82	0.35	0.61	0.50	0.34	1.03	1.24	0.45	0.55
	$p=0.9$	0.50	0.43	1.15	2.22	0.41	0.62	0.50	0.39	1.13	1.99	0.48	0.55
$EARMA$	0.25	0.50	0.34	1.02	3.03	0.34	0.60	0.50	0.34	1.01	1.14	0.45	0.55
	0.5	0.50	0.34	1.02	3.02	0.34	0.60	0.50	0.34	1.01	1.14	0.45	0.55
	1	0.50	0.34	1.02	3.05	0.34	0.61	0.50	0.34	1.02	1.12	0.45	0.55
	3	0.50	0.40	1.11	2.59	0.37	0.60	0.50	0.36	1.07	1.07	0.45	0.55
	5.25	0.50	0.35	1.04	3.25	0.34	0.61	0.50	0.36	1.06	1.00	0.46	0.54
mH_2	$m=2$	0.50	0.34	1.02	2.64	0.36	0.57	0.50	0.34	1.02	1.82	0.38	0.67
	$m=5$	0.50	0.34	1.02	2.89	0.34	0.60	0.50	0.34	1.02	1.34	0.42	0.60
	$m=10$	0.50	0.34	1.02	2.97	0.34	0.60	0.50	0.34	1.01	1.22	0.44	0.57
	$m=20$	0.50	0.34	1.02	2.99	0.34	0.60	0.50	0.34	1.01	1.17	0.44	0.56
$RRI(H_2)$	$p=0.1$	0.50	0.34	1.02	2.28	0.38	0.51	0.50	0.34	1.03	2.71	0.32	0.82
	$p=0.5$	0.50	0.35	1.04	2.17	0.39	0.52	0.50	0.36	1.06	2.78	0.33	0.82
	$p=0.9$	0.50	0.41	1.14	1.93	0.44	0.53	0.50	0.44	1.22	3.38	0.38	0.85

Table LV. Tests for $LN(1,1)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p$-value]) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]
Exp	$-$	4792	0.12 ± 0.0033	125	0.00 ± 0.0003	1	0.00 ± 0.0000	9304	0.45 ± 0.0056	527	0.01 ± 0.0006	271	0.01 ± 0.0004
E_k	$k = 2$	8173	0.32 ± 0.0053	6552	0.22 ± 0.0046	3486	0.09 ± 0.0030	9955	0.70 ± 0.0051	4852	0.12 ± 0.0032	729	0.01 ± 0.0009
	$k = 4$	9848	0.64 ± 0.0054	62	0.00 ± 0.0002	1	0.00 ± 0.0000	10000	0.89 ± 0.0031	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	9983	0.80 ± 0.0043	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.95 ± 0.0019	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	5007	0.13 ± 0.0034	159	0.00 ± 0.0004	0	0.00 ± 0.0000	8818	0.39 ± 0.0055	139	0.00 ± 0.0003	44	0.00 ± 0.0002
	$c^2 = 1.5$	5249	0.14 ± 0.0035	220	0.00 ± 0.0005	0	0.00 ± 0.0000	8411	0.33 ± 0.0052	42	0.00 ± 0.0001	3	0.00 ± 0.0001
	$c^2 = 2$	5589	0.15 ± 0.0038	416	0.01 ± 0.0007	3	0.00 ± 0.0000	7646	0.26 ± 0.0047	1	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	6295	0.19 ± 0.0042	1615	0.03 ± 0.0018	54	0.00 ± 0.0003	5272	0.13 ± 0.0034	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	6781	0.22 ± 0.0045	3215	0.09 ± 0.0034	360	0.01 ± 0.0009	2918	0.06 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	6010	0.19 ± 0.0043	3374	0.11 ± 0.0039	500	0.01 ± 0.0012	9734	0.57 ± 0.0056	7726	0.26 ± 0.0045	5299	0.14 ± 0.0037
LN	$(1, 0.25)$	9990	0.80 ± 0.0043	1	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.90 ± 0.0030	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9501	0.50 ± 0.0057	9489	0.50 ± 0.0056	9476	0.50 ± 0.0056	9512	0.50 ± 0.0057	9485	0.50 ± 0.0057	9494	0.50 ± 0.0057
	$(1, 4)$	8755	0.37 ± 0.0054	3991	0.09 ± 0.0026	1789	0.04 ± 0.0017	6066	0.17 ± 0.0039	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	8637	0.36 ± 0.0053	1991	0.04 ± 0.0015	648	0.01 ± 0.0008	3573	0.08 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	3964	0.09 ± 0.0029	143	0.00 ± 0.0004	1	0.00 ± 0.0000	8727	0.37 ± 0.0054	608	0.01 ± 0.0007	320	0.01 ± 0.0005
	$p = 0.5$	1198	0.02 ± 0.0013	434	0.01 ± 0.0007	25	0.00 ± 0.0002	4733	0.12 ± 0.0033	611	0.01 ± 0.0008	377	0.01 ± 0.0006
	$p = 0.9$	98	0.00 ± 0.0003	32	0.00 ± 0.0001	3	0.00 ± 0.0000	386	0.01 ± 0.0007	31	0.00 ± 0.0001	2	0.00 ± 0.0000
$EARMA$	0.25	4544	0.11 ± 0.0032	153	0.00 ± 0.0004	0	0.00 ± 0.0000	8257	0.32 ± 0.0052	515	0.01 ± 0.0006	260	0.01 ± 0.0004
	0.5	4148	0.10 ± 0.0030	182	0.00 ± 0.0004	0	0.00 ± 0.0000	7003	0.23 ± 0.0046	522	0.01 ± 0.0006	271	0.01 ± 0.0004
	1	4006	0.09 ± 0.0029	226	0.00 ± 0.0006	4	0.00 ± 0.0001	5391	0.15 ± 0.0039	558	0.01 ± 0.0006	344	0.01 ± 0.0005
	3	229	0.00 ± 0.0005	2058	0.05 ± 0.0025	420	0.01 ± 0.0016	1306	0.03 ± 0.0014	1721	0.04 ± 0.0023	1969	0.05 ± 0.0023
	5.25	2126	0.04 ± 0.0019	914	0.02 ± 0.0017	107	0.00 ± 0.0006	1085	0.02 ± 0.0013	577	0.01 ± 0.0007	662	0.01 ± 0.0007
mH_2	$m = 2$	4644	0.12 ± 0.0033	531	0.01 ± 0.0009	3	0.00 ± 0.0000	4947	0.13 ± 0.0034	18	0.00 ± 0.0001	0	0.00 ± 0.0000
	$m = 5$	3800	0.09 ± 0.0029	312	0.01 ± 0.0007	2	0.00 ± 0.0000	5178	0.15 ± 0.0039	173	0.00 ± 0.0003	61	0.00 ± 0.0002
	$m = 10$	3898	0.09 ± 0.0029	285	0.01 ± 0.0007	3	0.00 ± 0.0001	6181	0.21 ± 0.0047	389	0.01 ± 0.0005	186	0.00 ± 0.0004
	$m = 20$	4237	0.10 ± 0.0031	215	0.00 ± 0.0005	1	0.00 ± 0.0000	7417	0.29 ± 0.0054	494	0.01 ± 0.0005	267	0.01 ± 0.0004
$RRI(H_2)$	$p = 0.1$	5413	0.15 ± 0.0037	1628	0.04 ± 0.0018	88	0.00 ± 0.0003	4401	0.10 ± 0.0029	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	2124	0.04 ± 0.0019	1506	0.03 ± 0.0016	288	0.01 ± 0.0008	1218	0.02 ± 0.0012	11	0.00 ± 0.0001	1	0.00 ± 0.0000
	$p = 0.9$	199	0.00 ± 0.0005	54	0.00 ± 0.0002	8	0.00 ± 0.0001	58	0.00 ± 0.0002	15	0.00 ± 0.0001	2	0.00 ± 0.0000

Table LVI. Tests for $LN(1,4)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.57	0.24	1.14	1.28	0.46	0.38
E_k	$k = 2$	1.00	0.50	0.65	0.10	1.22	2.55	0.38	0.43
	$k = 4$	1.00	0.25	0.69	0.04	1.28	9.90	0.27	0.47
	$k = 6$	1.00	0.17	0.71	0.03	1.30	19.76	0.22	0.49
H_2	$c^2 = 1.25$	1.00	1.24	0.56	0.26	1.12	1.20	0.47	0.37
	$c^2 = 1.5$	1.00	1.48	0.55	0.28	1.09	1.14	0.48	0.36
	$c^2 = 2$	1.00	1.95	0.53	0.31	1.06	1.09	0.49	0.36
	$c^2 = 4$	1.00	3.77	0.49	0.36	0.97	1.10	0.48	0.36
	$c^2 = 10$	1.00	8.64	0.45	0.39	0.87	1.35	0.46	0.38
Z	$-$	1.00	0.95	0.62	0.13	1.19	1.92	0.41	0.42
LN	$(1, 0.25)$	1.00	0.25	0.70	0.03	1.28	20.68	0.25	0.44
	$(1, 1)$	1.00	0.97	0.62	0.12	1.17	2.77	0.41	0.38
	$(1, 4)$	1.00	3.45	0.50	0.33	1.00	1.00	0.50	0.33
	$(1, 10)$	1.00	6.76	0.42	0.56	0.88	1.22	0.46	0.39
RRI	$p = 0.1$	1.00	0.99	0.57	0.24	1.14	1.53	0.41	0.54
	$p = 0.5$	1.00	0.98	0.57	0.24	1.14	3.55	0.23	1.77
	$p = 0.9$	1.00	0.88	0.57	0.24	1.14	21.02	0.05	12.71
$EARMA$	0.25	1.00	0.99	0.58	0.24	1.14	1.27	0.46	0.38
	0.5	1.00	0.99	0.57	0.24	1.14	1.28	0.46	0.38
	1	1.00	0.97	0.58	0.24	1.14	1.29	0.46	0.38
	3	1.00	0.97	0.58	0.24	1.14	1.25	0.46	0.39
	5.25	1.00	0.90	0.58	0.23	1.14	1.38	0.44	0.40
mH_2	$m = 2$	1.00	2.35	0.53	0.30	1.06	1.11	0.48	0.36
	$m = 5$	1.00	1.32	0.56	0.26	1.11	1.20	0.47	0.37
	$m = 10$	1.00	1.11	0.57	0.25	1.13	1.24	0.46	0.38
	$m = 20$	1.00	1.03	0.57	0.24	1.13	1.26	0.46	0.38
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.49	0.36	0.98	1.34	0.43	0.52
	$p = 0.5$	1.00	3.43	0.49	0.36	0.97	3.25	0.24	1.74
	$p = 0.9$	1.00	2.21	0.49	0.36	0.98	20.25	0.05	12.88

Table LVII. Tests for $LN(1,4)$ using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	181	0.00 ± 0.0005	181	0.00 ± 0.0005	9442	0.38 ± 0.0049	5509	0.18 ± 0.0046
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7960	0.23 ± 0.0040	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	16	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	811	0.02 ± 0.0012	811	0.02 ± 0.0012	9375	0.41 ± 0.0052	7382	0.29 ± 0.0056
	$c^2 = 1.5$	2340	0.05 ± 0.0023	2340	0.05 ± 0.0023	9414	0.43 ± 0.0054	8354	0.37 ± 0.0058
	$c^2 = 2$	5665	0.17 ± 0.0043	5665	0.17 ± 0.0043	9491	0.47 ± 0.0055	9006	0.43 ± 0.0058
	$c^2 = 4$	9164	0.36 ± 0.0048	9164	0.36 ± 0.0048	8965	0.43 ± 0.0058	8864	0.41 ± 0.0058
	$c^2 = 10$	3774	0.08 ± 0.0023	3774	0.08 ± 0.0023	3948	0.11 ± 0.0035	6700	0.23 ± 0.0050
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9194	0.33 ± 0.0044	196	0.00 ± 0.0005
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9412	0.46 ± 0.0054	90	0.00 ± 0.0003
	$(1, 4)$	9508	0.50 ± 0.0056	9508	0.50 ± 0.0056	9493	0.50 ± 0.0057	9508	0.50 ± 0.0056
	$(1, 10)$	232	0.01 ± 0.0005	232	0.01 ± 0.0005	4067	0.12 ± 0.0040	6261	0.22 ± 0.0051
RRI	$p = 0.1$	193	0.00 ± 0.0005	193	0.00 ± 0.0005	1964	0.03 ± 0.0011	346	0.01 ± 0.0004
	$p = 0.5$	408	0.01 ± 0.0007	408	0.01 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	13	0.00 ± 0.0001	13	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	206	0.00 ± 0.0006	206	0.00 ± 0.0006	9222	0.37 ± 0.0051	5443	0.18 ± 0.0046
	0.5	312	0.01 ± 0.0007	312	0.01 ± 0.0007	9035	0.36 ± 0.0052	5388	0.17 ± 0.0045
	1	436	0.01 ± 0.0009	436	0.01 ± 0.0009	8712	0.34 ± 0.0052	5032	0.16 ± 0.0045
	3	1594	0.04 ± 0.0024	1594	0.04 ± 0.0024	5539	0.16 ± 0.0042	4073	0.13 ± 0.0041
	5.25	1220	0.03 ± 0.0019	1220	0.03 ± 0.0019	6577	0.23 ± 0.0050	3612	0.12 ± 0.0042
mH_2	$m = 2$	4930	0.15 ± 0.0040	4930	0.15 ± 0.0040	9055	0.42 ± 0.0057	8640	0.39 ± 0.0058
	$m = 5$	1706	0.04 ± 0.0022	1706	0.04 ± 0.0022	8672	0.36 ± 0.0054	7193	0.27 ± 0.0055
	$m = 10$	1083	0.03 ± 0.0017	1083	0.03 ± 0.0017	8562	0.35 ± 0.0054	6179	0.22 ± 0.0051
	$m = 20$	808	0.02 ± 0.0013	808	0.02 ± 0.0013	8707	0.35 ± 0.0054	5752	0.19 ± 0.0049
$RRI(H_2)$	$p = 0.1$	8581	0.29 ± 0.0046	8581	0.29 ± 0.0046	1332	0.02 ± 0.0010	834	0.02 ± 0.0008
	$p = 0.5$	3857	0.08 ± 0.0024	3857	0.08 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	17	0.00 ± 0.0001	17	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table LVIII. Tests for $LN(1,4)$ using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.01	2.18	0.42	0.36	0.50	0.33	0.99	0.55	0.59	0.27
E_k	$k = 2$	0.50	0.34	1.00	0.92	0.56	0.17	0.50	0.33	0.99	0.28	0.70	0.12
	$k = 4$	0.50	0.33	0.99	0.40	0.68	0.09	0.50	0.33	0.99	0.14	0.79	0.05
	$k = 6$	0.50	0.33	0.99	0.25	0.74	0.06	0.50	0.33	0.99	0.09	0.83	0.03
H_2	$c^2 = 1.25$	0.50	0.34	1.01	2.11	0.42	0.37	0.50	0.33	1.00	0.63	0.57	0.29
	$c^2 = 1.5$	0.50	0.34	1.01	2.05	0.42	0.37	0.50	0.33	1.00	0.69	0.55	0.31
	$c^2 = 2$	0.50	0.34	1.01	1.96	0.43	0.37	0.50	0.33	1.00	0.81	0.53	0.33
	$c^2 = 4$	0.50	0.34	1.01	1.75	0.44	0.35	0.50	0.34	1.00	1.10	0.49	0.35
	$c^2 = 10$	0.50	0.34	1.00	1.58	0.47	0.30	0.50	0.34	1.01	1.44	0.47	0.36
Z	–	0.50	0.34	1.00	1.55	0.51	0.20	0.50	0.33	0.99	0.36	0.67	0.15
LN	$(1, 0.25)$	0.50	0.33	0.99	0.26	0.72	0.08	0.50	0.33	0.99	0.12	0.81	0.04
	$(1, 1)$	0.50	0.33	0.99	0.64	0.59	0.20	0.50	0.33	0.99	0.40	0.66	0.13
	$(1, 4)$	0.50	0.34	1.00	0.99	0.50	0.34	0.50	0.34	1.00	0.99	0.50	0.34
	$(1, 10)$	0.50	0.34	1.00	1.11	0.48	0.39	0.50	0.34	1.01	1.59	0.41	0.55
RRI	$p = 0.1$	0.50	0.34	1.01	2.15	0.42	0.36	0.50	0.33	1.00	0.56	0.59	0.27
	$p = 0.5$	0.50	0.35	1.03	2.01	0.43	0.36	0.50	0.34	1.01	0.57	0.59	0.27
	$p = 0.9$	0.50	0.40	1.10	1.47	0.48	0.37	0.50	0.36	1.05	0.70	0.62	0.27
$EARMA$	0.25	0.50	0.34	1.01	2.18	0.42	0.36	0.50	0.33	1.00	0.55	0.59	0.27
	0.5	0.50	0.34	1.01	2.17	0.42	0.36	0.50	0.34	1.00	0.55	0.59	0.27
	1	0.50	0.34	1.01	2.19	0.42	0.36	0.50	0.34	1.00	0.54	0.59	0.27
	3	0.50	0.38	1.07	1.76	0.45	0.36	0.50	0.35	1.03	0.53	0.59	0.27
	5.25	0.50	0.35	1.02	2.30	0.42	0.35	0.50	0.35	1.02	0.49	0.60	0.26
mH_2	$m = 2$	0.50	0.34	1.01	1.96	0.43	0.36	0.50	0.34	1.00	0.79	0.54	0.31
	$m = 5$	0.50	0.34	1.01	2.11	0.42	0.37	0.50	0.34	1.00	0.63	0.57	0.29
	$m = 10$	0.50	0.34	1.01	2.14	0.42	0.36	0.50	0.34	1.00	0.58	0.58	0.28
	$m = 20$	0.50	0.34	1.01	2.15	0.42	0.36	0.50	0.33	1.00	0.56	0.58	0.27
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.01	1.74	0.45	0.35	0.50	0.34	1.00	1.10	0.49	0.35
	$p = 0.5$	0.50	0.35	1.02	1.64	0.45	0.35	0.50	0.34	1.02	1.10	0.50	0.36
	$p = 0.9$	0.50	0.39	1.10	1.31	0.50	0.36	0.50	0.38	1.08	1.13	0.53	0.36

Table LIX. Tests for $LN(1,4)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p$-value]) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]
Exp	$-$	6650	0.21 ± 0.0044	2999	0.08 ± 0.0029	394	0.01 ± 0.0008	9972	0.75 ± 0.0047	2241	0.04 ± 0.0016	38	0.00 ± 0.0002
E_k	$k = 2$	9569	0.54 ± 0.0058	99	0.00 ± 0.0002	4	0.00 ± 0.0001	10000	0.93 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	9998	0.85 ± 0.0037	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0007	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.94 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	1.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	6803	0.22 ± 0.0045	3341	0.10 ± 0.0035	465	0.01 ± 0.0010	9939	0.70 ± 0.0051	4407	0.10 ± 0.0029	513	0.01 ± 0.0007
	$c^2 = 1.5$	6911	0.22 ± 0.0046	3798	0.12 ± 0.0040	648	0.02 ± 0.0013	9895	0.66 ± 0.0053	6275	0.18 ± 0.0041	2255	0.05 ± 0.0020
	$c^2 = 2$	7096	0.24 ± 0.0047	4469	0.15 ± 0.0045	1010	0.02 ± 0.0017	9788	0.59 ± 0.0055	8103	0.30 ± 0.0050	6140	0.19 ± 0.0043
	$c^2 = 4$	7685	0.28 ± 0.0050	5855	0.21 ± 0.0050	2230	0.06 ± 0.0026	9294	0.46 ± 0.0056	9045	0.36 ± 0.0049	8783	0.31 ± 0.0046
	$c^2 = 10$	8061	0.31 ± 0.0053	6157	0.17 ± 0.0038	3391	0.07 ± 0.0024	8538	0.35 ± 0.0054	8338	0.28 ± 0.0045	5450	0.13 ± 0.0032
Z	$-$	8203	0.35 ± 0.0056	1097	0.02 ± 0.0006	270	0.01 ± 0.0003	10000	0.87 ± 0.0034	0	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	10000	0.94 ± 0.0023	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	9930	0.69 ± 0.0052	1480	0.03 ± 0.0011	115	0.00 ± 0.0003	9999	0.85 ± 0.0037	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	9493	0.49 ± 0.0056	9516	0.50 ± 0.0057	9482	0.50 ± 0.0057	9508	0.50 ± 0.0057	9492	0.50 ± 0.0057	9490	0.50 ± 0.0057
	$(1, 10)$	9272	0.45 ± 0.0056	8839	0.37 ± 0.0054	8033	0.32 ± 0.0056	8094	0.30 ± 0.0051	1348	0.03 ± 0.0013	185	0.00 ± 0.0004
RRI	$p = 0.1$	5821	0.17 ± 0.0040	2990	0.08 ± 0.0028	453	0.01 ± 0.0008	9921	0.68 ± 0.0053	1990	0.04 ± 0.0016	47	0.00 ± 0.0001
	$p = 0.5$	2371	0.05 ± 0.0022	2435	0.05 ± 0.0019	673	0.01 ± 0.0009	8255	0.34 ± 0.0054	1204	0.02 ± 0.0013	120	0.00 ± 0.0003
	$p = 0.9$	313	0.01 ± 0.0006	68	0.00 ± 0.0002	13	0.00 ± 0.0001	1738	0.04 ± 0.0021	29	0.00 ± 0.0001	3	0.00 ± 0.0001
$EARMA$	0.25	6367	0.19 ± 0.0043	3053	0.08 ± 0.0030	354	0.01 ± 0.0008	9866	0.64 ± 0.0054	2210	0.04 ± 0.0016	34	0.00 ± 0.0001
	0.5	6004	0.18 ± 0.0041	3092	0.08 ± 0.0029	396	0.01 ± 0.0008	9571	0.53 ± 0.0058	2209	0.04 ± 0.0016	44	0.00 ± 0.0002
	1	5710	0.17 ± 0.0040	2965	0.07 ± 0.0028	418	0.01 ± 0.0007	9023	0.43 ± 0.0058	2112	0.04 ± 0.0016	72	0.00 ± 0.0003
	3	666	0.01 ± 0.0010	3819	0.10 ± 0.0032	2993	0.08 ± 0.0032	4018	0.10 ± 0.0033	1727	0.04 ± 0.0019	647	0.01 ± 0.0012
	5.25	3371	0.08 ± 0.0027	2085	0.05 ± 0.0022	674	0.01 ± 0.0012	4027	0.11 ± 0.0036	1131	0.03 ± 0.0016	469	0.01 ± 0.0013
mH_2	$m = 2$	6225	0.19 ± 0.0042	4322	0.14 ± 0.0042	948	0.02 ± 0.0016	8786	0.39 ± 0.0057	6749	0.21 ± 0.0043	4425	0.12 ± 0.0035
	$m = 5$	5432	0.15 ± 0.0039	3526	0.10 ± 0.0035	582	0.01 ± 0.0011	8677	0.40 ± 0.0059	4117	0.09 ± 0.0028	606	0.01 ± 0.0008
	$m = 10$	5580	0.16 ± 0.0040	3338	0.09 ± 0.0032	500	0.01 ± 0.0009	9085	0.48 ± 0.0062	3092	0.06 ± 0.0022	178	0.00 ± 0.0004
	$m = 20$	5993	0.18 ± 0.0042	3231	0.09 ± 0.0031	440	0.01 ± 0.0009	9572	0.57 ± 0.0060	2661	0.05 ± 0.0019	79	0.00 ± 0.0002
$RRI(H_2)$	$p = 0.1$	6877	0.23 ± 0.0046	5625	0.19 ± 0.0047	2239	0.06 ± 0.0025	8830	0.39 ± 0.0055	8481	0.30 ± 0.0047	8117	0.26 ± 0.0044
	$p = 0.5$	3326	0.08 ± 0.0028	3598	0.08 ± 0.0026	1738	0.04 ± 0.0018	5080	0.14 ± 0.0036	4192	0.09 ± 0.0027	3547	0.07 ± 0.0024
	$p = 0.9$	430	0.01 ± 0.0009	58	0.00 ± 0.0002	12	0.00 ± 0.0001	658	0.01 ± 0.0010	52	0.00 ± 0.0002	5	0.00 ± 0.0001

Table LX. Tests for $LN(1, 10)$ using $F(X)$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	1.00	1.00	0.64	0.15	1.29	1.64	0.41	0.42
E_k	$k = 2$	1.00	0.50	0.71	0.06	1.39	5.04	0.30	0.49
	$k = 4$	1.00	0.25	0.74	0.02	1.45	19.03	0.21	0.51
	$k = 6$	1.00	0.17	0.76	0.01	1.47	33.40	0.17	0.51
H_2	$c^2 = 1.25$	1.00	1.24	0.63	0.16	1.26	1.51	0.43	0.40
	$c^2 = 1.5$	1.00	1.48	0.62	0.17	1.24	1.42	0.44	0.39
	$c^2 = 2$	1.00	1.95	0.60	0.19	1.20	1.31	0.46	0.38
	$c^2 = 4$	1.00	3.77	0.56	0.22	1.11	1.22	0.47	0.36
	$c^2 = 10$	1.00	8.64	0.53	0.24	1.01	1.30	0.46	0.37
Z	$-$	1.00	0.95	0.69	0.08	1.35	3.27	0.34	0.48
LN	$(1, 0.25)$	1.00	0.25	0.75	0.02	1.46	35.42	0.19	0.46
	$(1, 1)$	1.00	0.97	0.69	0.06	1.34	6.94	0.33	0.41
	$(1, 4)$	1.00	3.45	0.58	0.19	1.14	1.30	0.47	0.35
	$(1, 10)$	1.00	6.76	0.50	0.34	1.00	1.00	0.50	0.33
RRI	$p = 0.1$	1.00	0.99	0.64	0.15	1.29	1.93	0.37	0.58
	$p = 0.5$	1.00	0.98	0.64	0.15	1.29	4.24	0.21	1.85
	$p = 0.9$	1.00	0.88	0.64	0.15	1.29	23.12	0.05	12.95
$EARMA$	0.25	1.00	0.99	0.64	0.15	1.29	1.64	0.41	0.42
	0.5	1.00	0.99	0.64	0.15	1.29	1.65	0.41	0.42
	1	1.00	0.97	0.64	0.15	1.29	1.66	0.41	0.43
	3	1.00	0.97	0.64	0.15	1.29	1.83	0.41	0.42
	5.25	1.00	0.90	0.64	0.15	1.29	1.77	0.40	0.44
mH_2	$m = 2$	1.00	2.35	0.60	0.18	1.20	1.36	0.45	0.38
	$m = 5$	1.00	1.32	0.62	0.16	1.25	1.51	0.43	0.40
	$m = 10$	1.00	1.11	0.63	0.16	1.27	1.58	0.42	0.41
	$m = 20$	1.00	1.03	0.64	0.15	1.28	1.61	0.42	0.42
$RRI(H_2)$	$p = 0.1$	1.00	3.74	0.56	0.22	1.12	1.46	0.42	0.51
	$p = 0.5$	1.00	3.43	0.56	0.22	1.11	3.44	0.24	1.73
	$p = 0.9$	1.00	2.21	0.56	0.22	1.11	20.60	0.05	12.65

Table LXI. Tests for $LN(1,10)$ using $F(X)$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7833	0.17 ± 0.0030	329	0.01 ± 0.0007
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4168	0.08 ± 0.0022	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8014	0.20 ± 0.0034	1250	0.03 ± 0.0016
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8139	0.22 ± 0.0038	2724	0.07 ± 0.0029
	$c^2 = 2$	2	0.00 ± 0.0000	2	0.00 ± 0.0000	8385	0.26 ± 0.0044	5067	0.16 ± 0.0043
	$c^2 = 4$	330	0.01 ± 0.0006	330	0.01 ± 0.0006	9352	0.43 ± 0.0054	7485	0.30 ± 0.0056
	$c^2 = 10$	2217	0.04 ± 0.0014	2217	0.04 ± 0.0014	8884	0.41 ± 0.0058	6272	0.21 ± 0.0049
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7296	0.16 ± 0.0030	0	0.00 ± 0.0000
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7966	0.28 ± 0.0049	0	0.00 ± 0.0000
	$(1, 4)$	90	0.00 ± 0.0003	90	0.00 ± 0.0003	8993	0.39 ± 0.0054	7099	0.26 ± 0.0052
	$(1, 10)$	9467	0.50 ± 0.0056	9467	0.50 ± 0.0056	9489	0.50 ± 0.0057	9492	0.50 ± 0.0057
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1678	0.03 ± 0.0008	3	0.00 ± 0.0000
	$p = 0.5$	1	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	2	0.00 ± 0.0000	2	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7581	0.17 ± 0.0031	335	0.01 ± 0.0007
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7528	0.18 ± 0.0034	354	0.01 ± 0.0008
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7183	0.18 ± 0.0034	379	0.01 ± 0.0008
	3	187	0.00 ± 0.0007	187	0.00 ± 0.0007	4602	0.11 ± 0.0032	1544	0.04 ± 0.0025
	5.25	17	0.00 ± 0.0001	17	0.00 ± 0.0001	5700	0.15 ± 0.0038	552	0.01 ± 0.0013
mH_2	$m = 2$	16	0.00 ± 0.0002	16	0.00 ± 0.0002	8232	0.29 ± 0.0048	4156	0.12 ± 0.0039
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7563	0.22 ± 0.0041	1342	0.03 ± 0.0018
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7399	0.20 ± 0.0039	785	0.02 ± 0.0013
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7456	0.20 ± 0.0038	576	0.01 ± 0.0011
$RRI(H_2)$	$p = 0.1$	410	0.01 ± 0.0007	410	0.01 ± 0.0007	2357	0.04 ± 0.0013	740	0.01 ± 0.0008
	$p = 0.5$	543	0.01 ± 0.0009	543	0.01 ± 0.0009	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	7	0.00 ± 0.0000	7	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table LXII. Tests for $LN(1,10)$ using $-log(F(X))$ or $-log(1-F(X))$: Average and c^2 of untransformed (X) and transformed interarrival times (all with $n = 200$) with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.34	1.01	1.84	0.46	0.28	0.50	0.33	0.99	0.38	0.66	0.18
E_k	$k = 2$	0.50	0.33	0.99	0.72	0.60	0.13	0.50	0.33	0.99	0.18	0.76	0.08
	$k = 4$	0.50	0.33	0.99	0.30	0.72	0.06	0.50	0.33	0.99	0.09	0.83	0.03
	$k = 6$	0.50	0.33	0.99	0.19	0.77	0.04	0.50	0.33	0.99	0.06	0.87	0.02
H_2	$c^2 = 1.25$	0.50	0.34	1.00	1.80	0.46	0.29	0.50	0.33	0.99	0.42	0.64	0.20
	$c^2 = 1.5$	0.50	0.34	1.01	1.75	0.46	0.30	0.50	0.33	0.99	0.46	0.62	0.20
	$c^2 = 2$	0.50	0.34	1.00	1.69	0.46	0.30	0.50	0.33	0.99	0.53	0.61	0.22
	$c^2 = 4$	0.50	0.34	1.00	1.53	0.48	0.29	0.50	0.33	1.00	0.68	0.58	0.23
	$c^2 = 10$	0.50	0.34	1.00	1.39	0.50	0.25	0.50	0.33	1.00	0.84	0.57	0.23
Z	–	0.50	0.34	1.00	1.24	0.55	0.16	0.50	0.33	0.99	0.24	0.73	0.10
LN	$(1, 0.25)$	0.50	0.33	0.99	0.20	0.76	0.06	0.50	0.33	0.99	0.08	0.85	0.02
	$(1, 1)$	0.50	0.33	0.99	0.51	0.62	0.16	0.50	0.33	0.99	0.24	0.73	0.08
	$(1, 4)$	0.50	0.33	1.00	0.86	0.53	0.28	0.50	0.33	1.00	0.62	0.59	0.21
	$(1, 10)$	0.50	0.34	1.00	0.99	0.50	0.34	0.50	0.33	1.00	1.00	0.50	0.34
RRI	$p = 0.1$	0.50	0.34	1.01	1.82	0.46	0.28	0.50	0.33	0.99	0.38	0.66	0.18
	$p = 0.5$	0.50	0.35	1.02	1.70	0.46	0.28	0.50	0.34	1.00	0.38	0.66	0.18
	$p = 0.9$	0.50	0.39	1.08	1.22	0.52	0.29	0.50	0.35	1.03	0.42	0.68	0.18
$EARMA$	0.25	0.50	0.34	1.01	1.84	0.46	0.28	0.50	0.33	0.99	0.38	0.66	0.18
	0.5	0.50	0.34	1.01	1.83	0.46	0.28	0.50	0.33	0.99	0.37	0.66	0.18
	1	0.50	0.34	1.01	1.85	0.46	0.28	0.50	0.33	1.00	0.37	0.66	0.18
	3	0.50	0.38	1.06	1.47	0.48	0.28	0.50	0.34	1.01	0.36	0.66	0.18
	5.25	0.50	0.35	1.02	1.93	0.46	0.27	0.50	0.34	1.01	0.34	0.66	0.18
mH_2	$m = 2$	0.50	0.34	1.01	1.69	0.46	0.29	0.50	0.33	1.00	0.51	0.61	0.21
	$m = 5$	0.50	0.34	1.01	1.79	0.46	0.29	0.50	0.34	1.00	0.42	0.64	0.20
	$m = 10$	0.50	0.34	1.01	1.82	0.46	0.28	0.50	0.33	0.99	0.39	0.65	0.19
	$m = 20$	0.50	0.34	1.01	1.82	0.46	0.28	0.50	0.33	0.99	0.38	0.65	0.19
$RRI(H_2)$	$p = 0.1$	0.50	0.34	1.01	1.52	0.48	0.29	0.50	0.33	1.00	0.68	0.58	0.23
	$p = 0.5$	0.50	0.35	1.02	1.42	0.48	0.29	0.50	0.34	1.01	0.68	0.58	0.23
	$p = 0.9$	0.50	0.38	1.08	1.11	0.53	0.30	0.50	0.36	1.05	0.66	0.61	0.23

Table LXIII. Tests for $LN(1,10)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n=200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p$-value]) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]	$\#P$	$E[p$-value]
Exp	$-$	7471	0.27 ± 0.0050	3921	0.07 ± 0.0017	1125	0.02 ± 0.0008	10000	0.87 ± 0.0034	7	0.00 ± 0.0001	0	0.00 ± 0.0000
E_k	$k=2$	9845	0.64 ± 0.0055	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0012	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k=4$	10000	0.91 ± 0.0027	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	1.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k=6$	10000	0.97 ± 0.0013	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	1.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2=1.25$	7581	0.27 ± 0.0050	4777	0.10 ± 0.0027	1739	0.03 ± 0.0014	9994	0.83 ± 0.0039	40	0.00 ± 0.0002	0	0.00 ± 0.0000
	$c^2=1.5$	7647	0.28 ± 0.0051	5491	0.14 ± 0.0035	2257	0.05 ± 0.0019	9995	0.81 ± 0.0042	163	0.00 ± 0.0003	0	0.00 ± 0.0000
	$c^2=2$	7807	0.30 ± 0.0052	5943	0.18 ± 0.0042	2805	0.06 ± 0.0024	9980	0.76 ± 0.0046	688	0.01 ± 0.0007	7	0.00 ± 0.0001
	$c^2=4$	8256	0.33 ± 0.0054	6460	0.18 ± 0.0039	3776	0.08 ± 0.0026	9888	0.66 ± 0.0053	2427	0.05 ± 0.0017	339	0.01 ± 0.0006
	$c^2=10$	8571	0.37 ± 0.0056	4274	0.08 ± 0.0020	2371	0.04 ± 0.0013	9784	0.58 ± 0.0056	2359	0.04 ± 0.0015	613	0.01 ± 0.0008
Z	$-$	8863	0.44 ± 0.0060	6	0.00 ± 0.0001	0	0.00 ± 0.0000	10000	0.95 ± 0.0019	0	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	10000	0.97 ± 0.0015	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	1.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1,1)$	9981	0.77 ± 0.0046	10	0.00 ± 0.0001	0	0.00 ± 0.0000	10000	0.94 ± 0.0021	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1,4)$	9695	0.56 ± 0.0056	8734	0.34 ± 0.0052	7343	0.26 ± 0.0051	9948	0.70 ± 0.0051	1741	0.03 ± 0.0012	126	0.00 ± 0.0003
	$(1,10)$	9507	0.50 ± 0.0057	9505	0.50 ± 0.0057	9499	0.50 ± 0.0057	9483	0.50 ± 0.0057	9446	0.50 ± 0.0057	9494	0.50 ± 0.0057
RRI	$p=0.1$	6702	0.22 ± 0.0046	3557	0.06 ± 0.0017	1083	0.02 ± 0.0008	9989	0.81 ± 0.0042	8	0.00 ± 0.0001	0	0.00 ± 0.0000
	$p=0.5$	3146	0.07 ± 0.0027	1704	0.03 ± 0.0013	657	0.01 ± 0.0007	9335	0.49 ± 0.0059	48	0.00 ± 0.0002	0	0.00 ± 0.0000
	$p=0.9$	524	0.01 ± 0.0009	40	0.00 ± 0.0001	2	0.00 ± 0.0000	3136	0.09 ± 0.0033	7	0.00 ± 0.0001	0	0.00 ± 0.0000
$EARMA$	0.25	7213	0.25 ± 0.0048	3828	0.06 ± 0.0018	1124	0.02 ± 0.0008	9992	0.79 ± 0.0044	4	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	6897	0.23 ± 0.0046	3676	0.06 ± 0.0018	1059	0.02 ± 0.0008	9951	0.70 ± 0.0052	6	0.00 ± 0.0001	0	0.00 ± 0.0000
	1	6586	0.21 ± 0.0045	3219	0.06 ± 0.0018	906	0.02 ± 0.0008	9767	0.61 ± 0.0057	7	0.00 ± 0.0001	0	0.00 ± 0.0000
	3	1019	0.02 ± 0.0013	2048	0.04 ± 0.0018	1973	0.04 ± 0.0018	5862	0.19 ± 0.0046	263	0.01 ± 0.0006	26	0.00 ± 0.0002
	5.25	4143	0.10 ± 0.0032	1487	0.03 ± 0.0015	732	0.01 ± 0.0010	6181	0.22 ± 0.0050	29	0.00 ± 0.0002	1	0.00 ± 0.0000
mH_2	$m=2$	7014	0.23 ± 0.0047	5380	0.13 ± 0.0034	2522	0.05 ± 0.0019	9723	0.58 ± 0.0057	415	0.01 ± 0.0005	2	0.00 ± 0.0000
	$m=5$	6278	0.20 ± 0.0044	4367	0.09 ± 0.0025	1604	0.03 ± 0.0013	9591	0.57 ± 0.0060	59	0.00 ± 0.0002	0	0.00 ± 0.0000
	$m=10$	6375	0.21 ± 0.0046	4007	0.07 ± 0.0021	1435	0.02 ± 0.0010	9778	0.64 ± 0.0058	19	0.00 ± 0.0001	0	0.00 ± 0.0000
	$m=20$	6793	0.23 ± 0.0048	3887	0.07 ± 0.0019	1248	0.02 ± 0.0009	9927	0.73 ± 0.0053	15	0.00 ± 0.0001	0	0.00 ± 0.0000
$RRI(H_2)$	$p=0.1$	7529	0.28 ± 0.0051	5966	0.16 ± 0.0037	3499	0.07 ± 0.0025	9766	0.59 ± 0.0056	2202	0.04 ± 0.0017	372	0.01 ± 0.0008
	$p=0.5$	4013	0.10 ± 0.0032	2983	0.06 ± 0.0022	1694	0.03 ± 0.0016	7383	0.27 ± 0.0051	1127	0.02 ± 0.0013	526	0.01 ± 0.0010
	$p=0.9$	649	0.01 ± 0.0011	49	0.00 ± 0.0002	8	0.00 ± 0.0001	1544	0.04 ± 0.0019	36	0.00 ± 0.0001	4	0.00 ± 0.0001

C.1. Plots of the Average Empirical Distributions - Tests for E_2

Fig. 36. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); Exp: Standard KS, Conditional-Uniform, Log, Lewis Tests (from left to right).

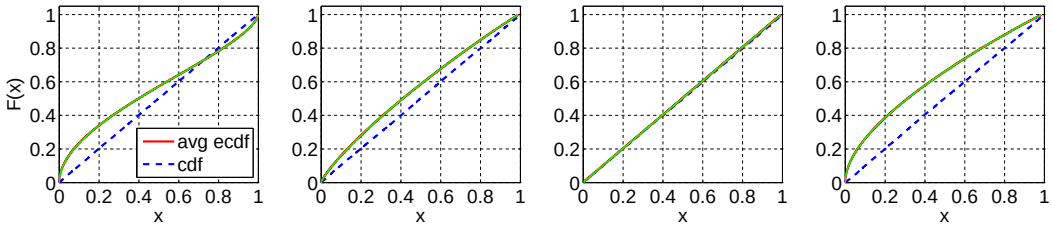


Fig. 37. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); E_2: F(X), Durbin, CU, and Lewis Tests(from left to right).

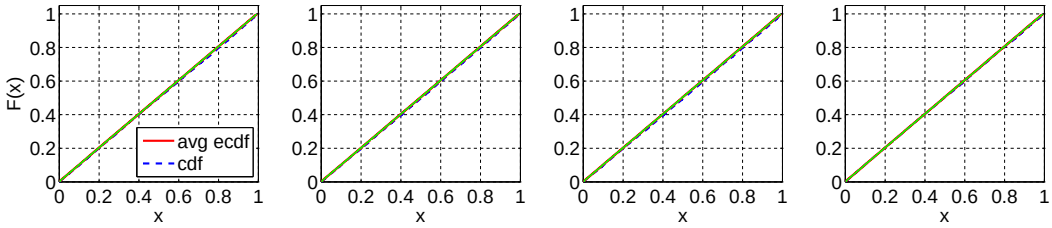


Fig. 38. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); E_4: F(X), Durbin, CU, and Lewis Tests(from left to right).

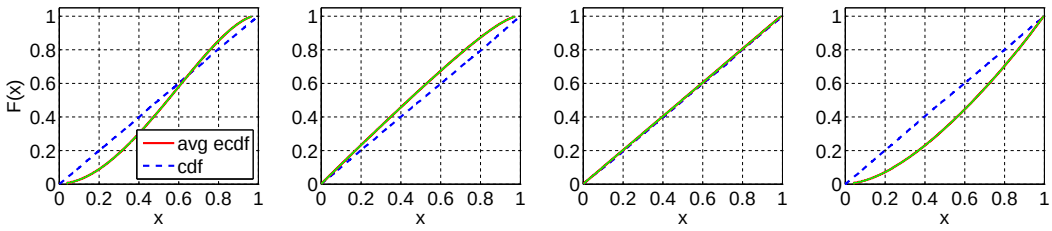


Fig. 39. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); E_6: F(X), Durbin, CU, and Lewis Tests(from left to right).

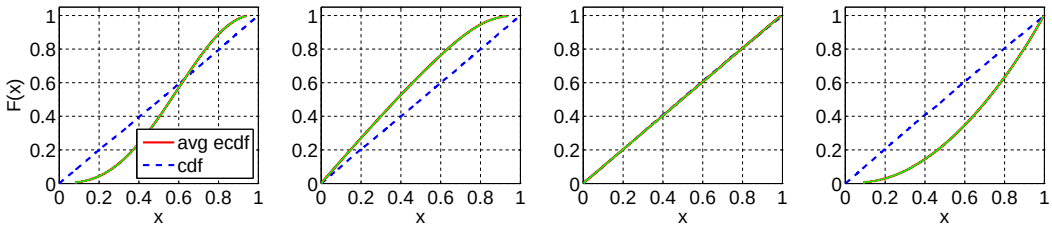


Fig. 40. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); H_2 ($c^2 = 1.25$): F(X), Durbin, CU, and Lewis Tests(from left to right).

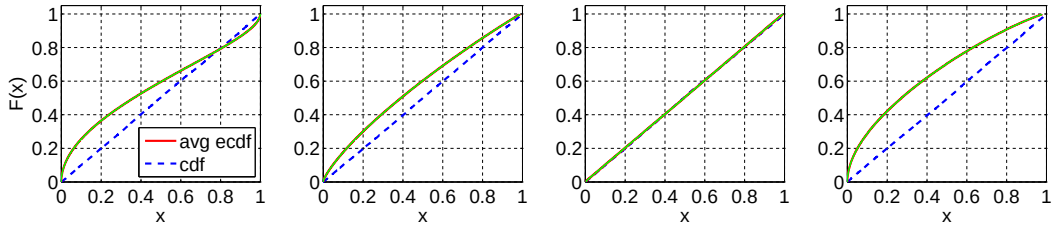


Fig. 41. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); H_2 ($c^2 = 1.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

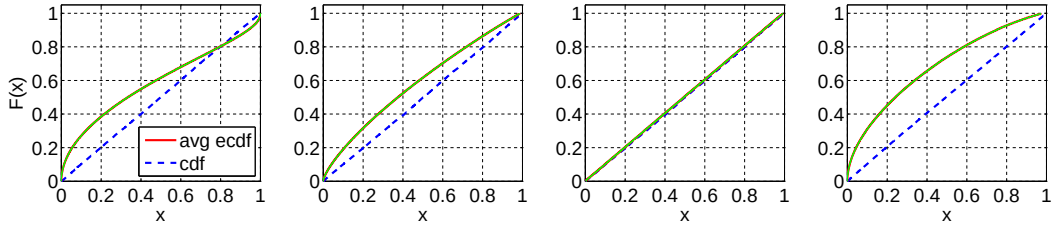


Fig. 42. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); H_2 ($c^2 = 2$): F(X), Durbin, CU, and Lewis Tests(from left to right).

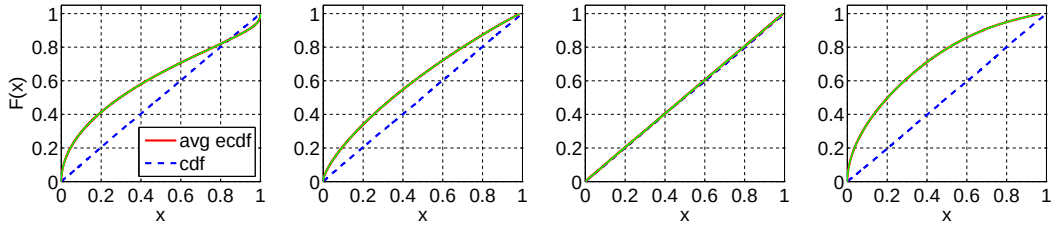


Fig. 43. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); H_2 ($c^2 = 4$): F(X), Durbin, CU, and Lewis Tests(from left to right).

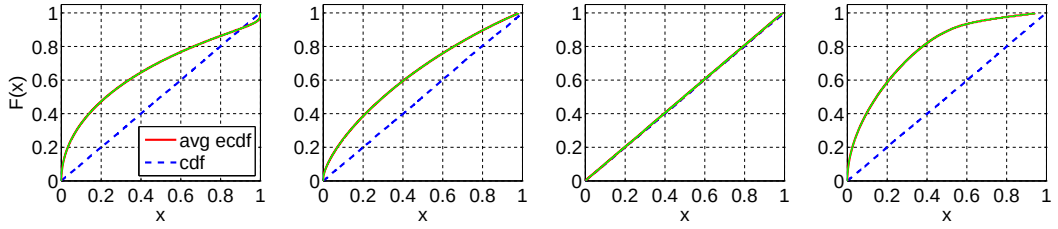


Fig. 44. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); H_2 ($c^2 = 10$): F(X), Durbin, CU, and Lewis Tests(from left to right).

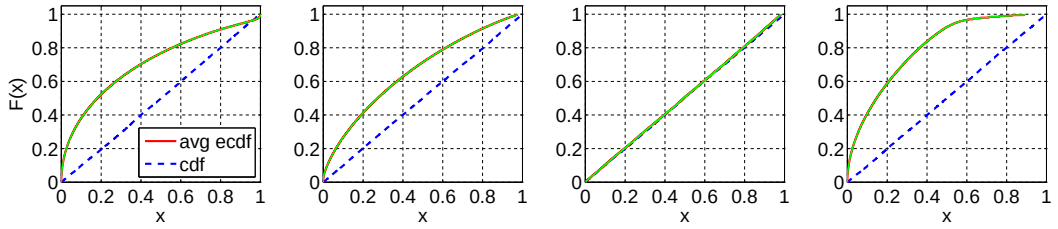


Fig. 45. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); Z: F(X), Durbin, CU, and Lewis Tests(from left to right).

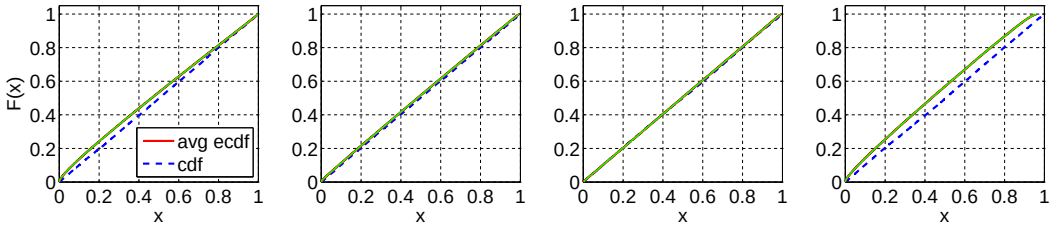


Fig. 46. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $LN(1, 0.25)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

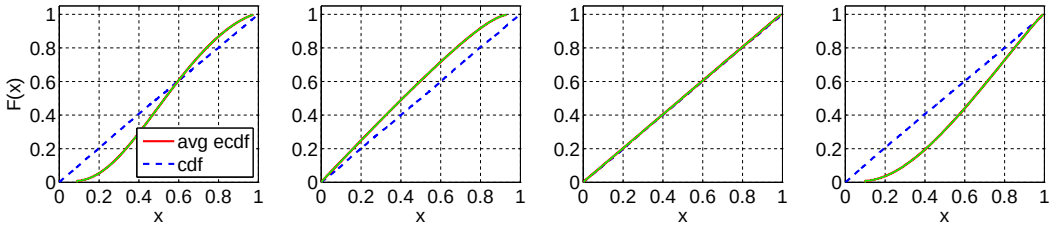


Fig. 47. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $LN(1, 1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

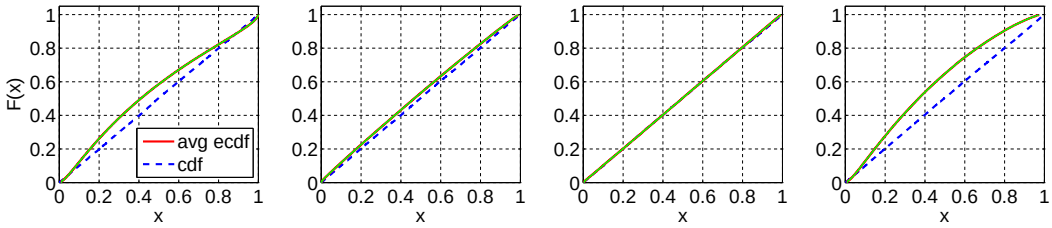


Fig. 48. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $LN(1, 4)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

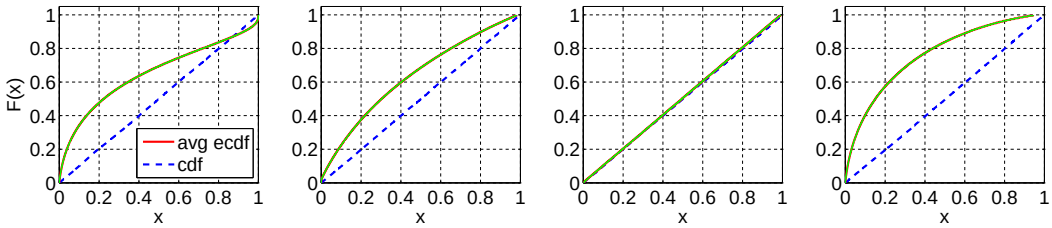


Fig. 49. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $LN(1, 10)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

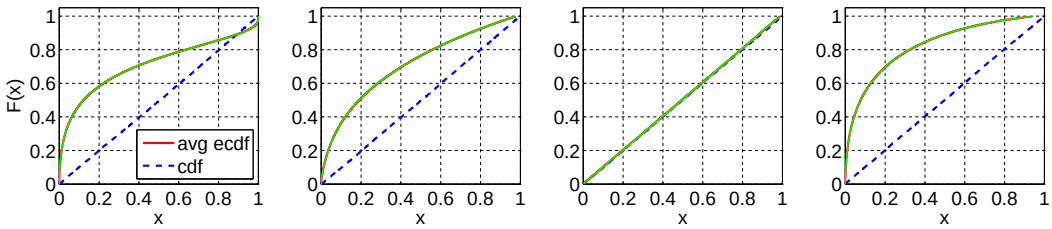


Fig. 50. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); RRI ($p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

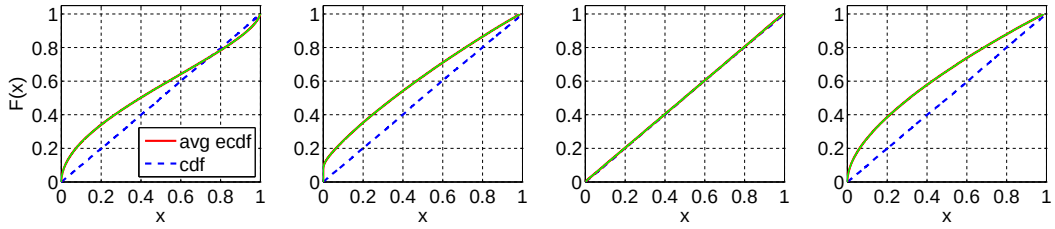


Fig. 51. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); RRI ($p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

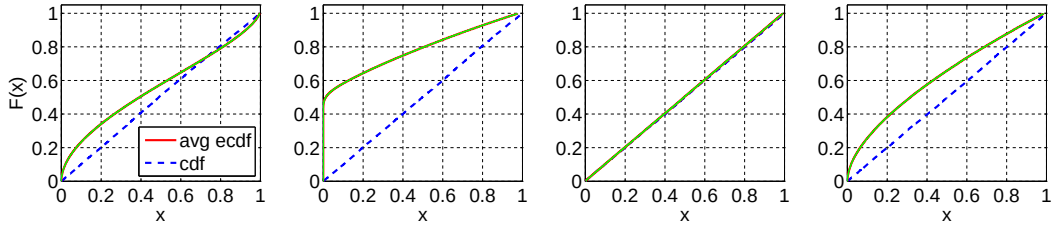


Fig. 52. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); RRI ($p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).

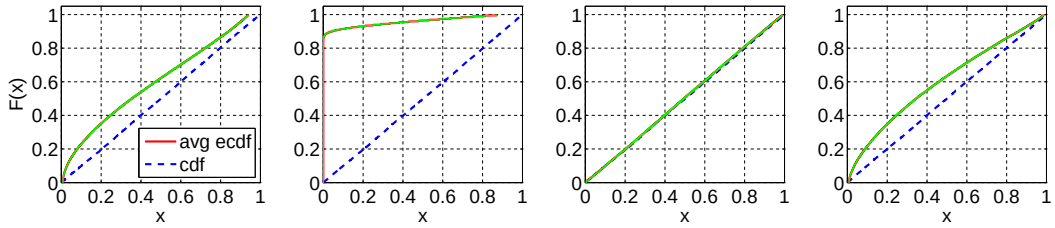


Fig. 53. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $EARMA$ (0.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

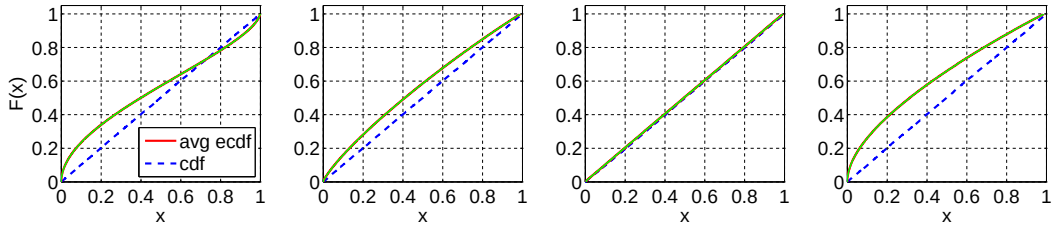


Fig. 54. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $EARMA$ (0.5): F(X), Durbin, CU, and Lewis Tests(from left to right).

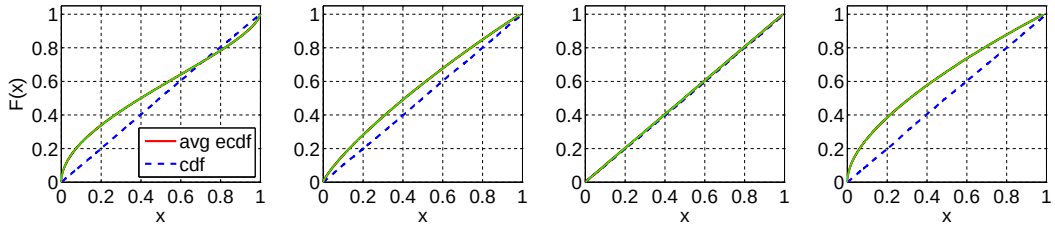


Fig. 55. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $EARMA$ (1): F(X), Durbin, CU, and Lewis Tests(from left to right).

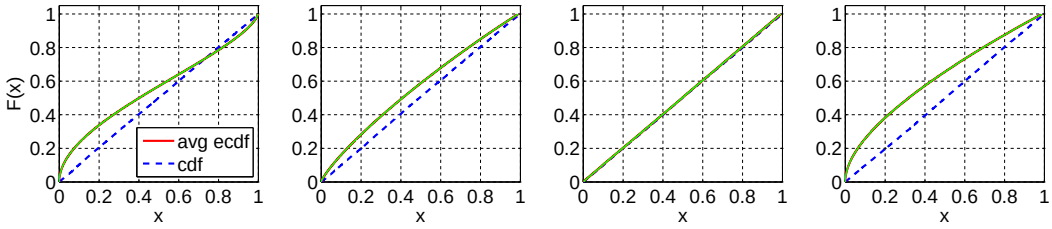


Fig. 56. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $EARMA$ (3): F(X), Durbin, CU, and Lewis Tests(from left to right).

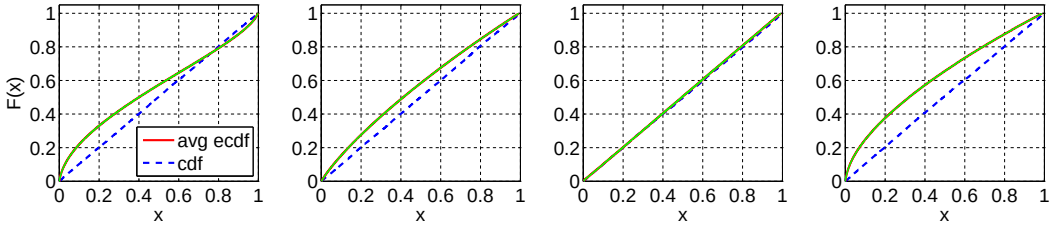


Fig. 57. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $EARMA$ (5.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

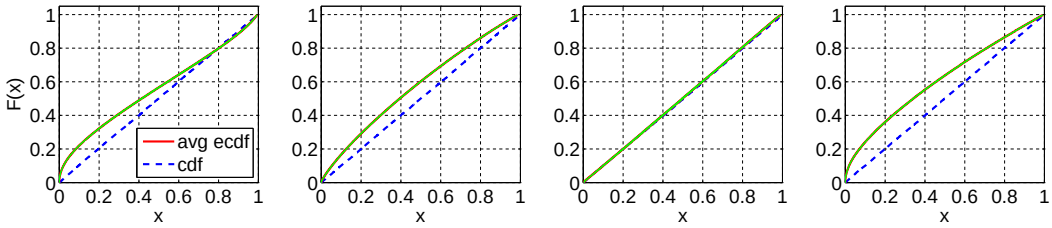


Fig. 58. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $2 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

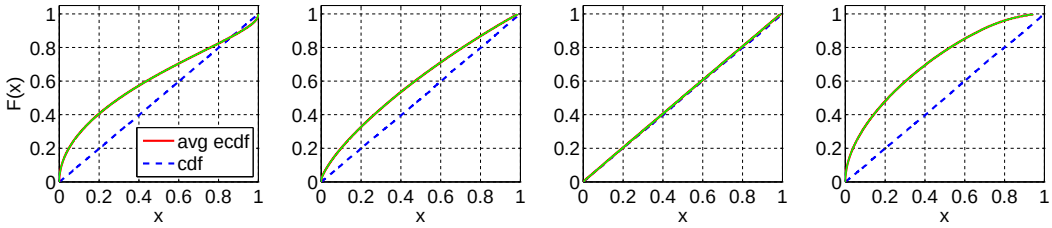


Fig. 59. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $5 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

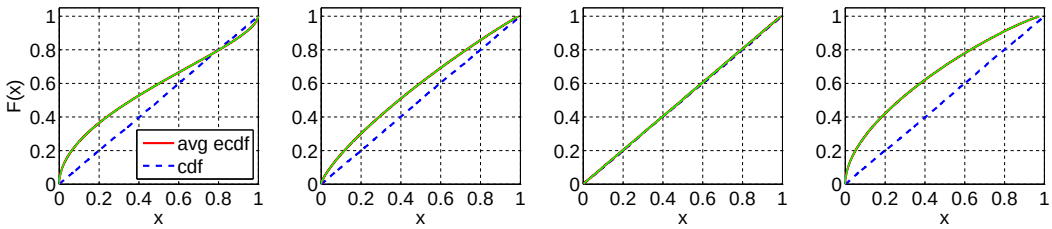


Fig. 60. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $10 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

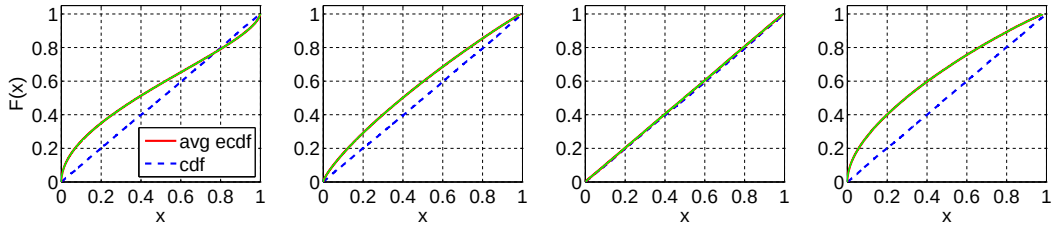


Fig. 61. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); $20 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

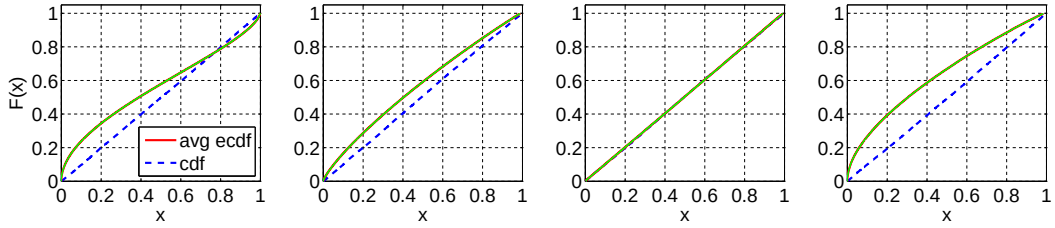


Fig. 62. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); RRI ($H_2, p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

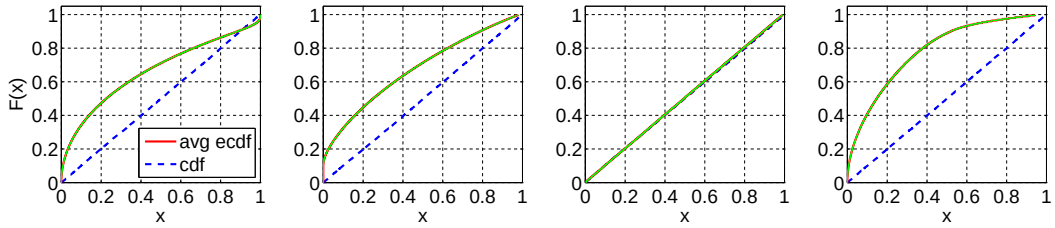


Fig. 63. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); RRI ($H_2, p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

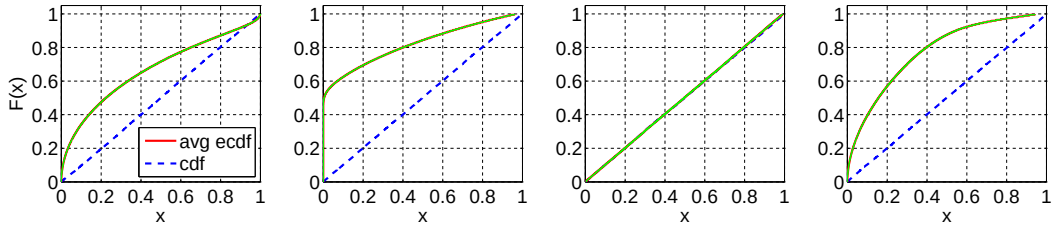
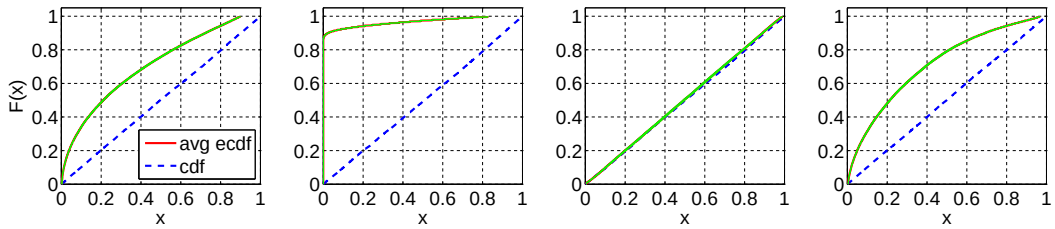


Fig. 64. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (E_2); RRI ($H_2, p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).



C.2. Plots of the Average Empirical Distributions - Tests for H_2 with $c^2 = 2$

Fig. 65. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); Exp: Standard KS, Conditional-Uniform, Log, Lewis Tests (from left to right).

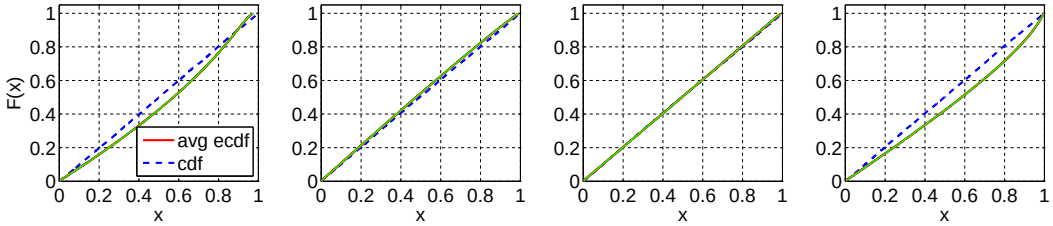


Fig. 66. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); H_2 with $c^2 = 2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

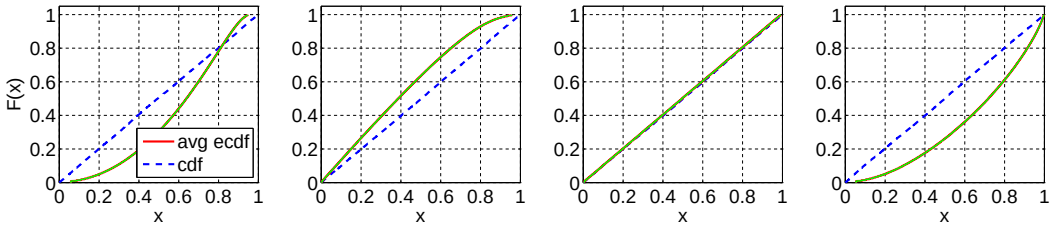


Fig. 67. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); E_4: F(X), Durbin, CU, and Lewis Tests(from left to right).

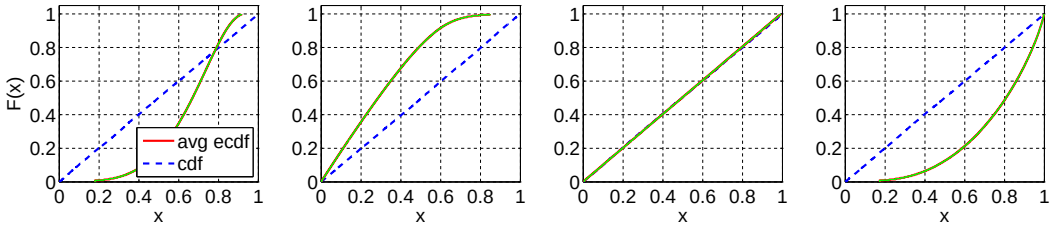


Fig. 68. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); E_6: F(X), Durbin, CU, and Lewis Tests(from left to right).

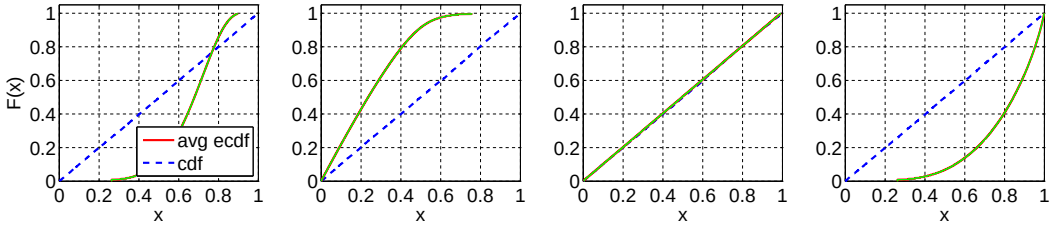


Fig. 69. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); H_2 ($c^2 = 1.25$): F(X), Durbin, CU, and Lewis Tests(from left to right).

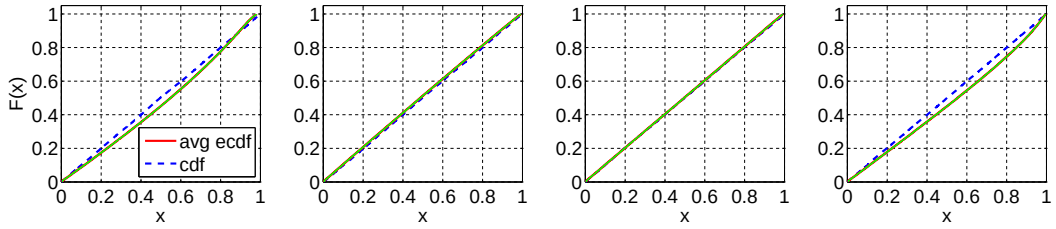


Fig. 70. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); H_2 ($c^2 = 1.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

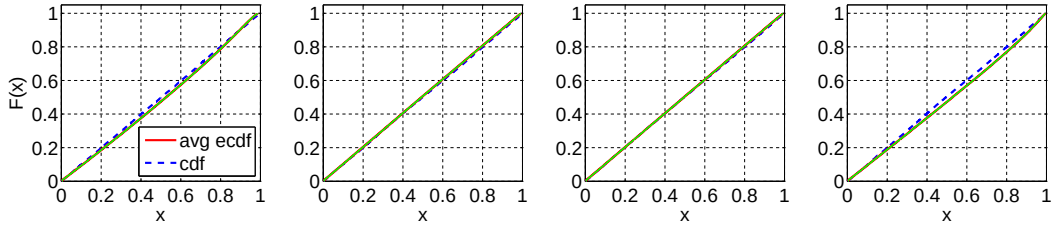


Fig. 71. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); H_2 ($c^2 = 2$): F(X), Durbin, CU, and Lewis Tests(from left to right).

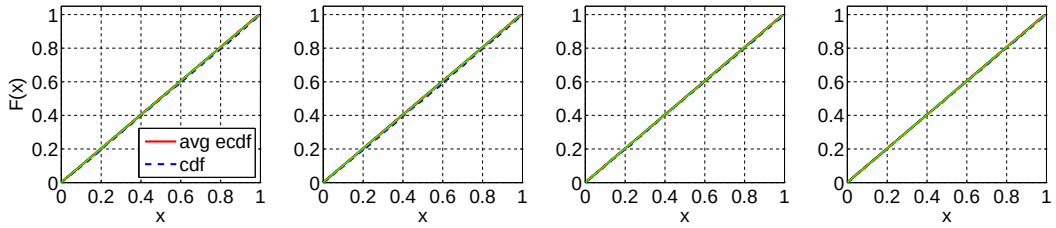


Fig. 72. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); H_2 ($c^2 = 4$): F(X), Durbin, CU, and Lewis Tests(from left to right).

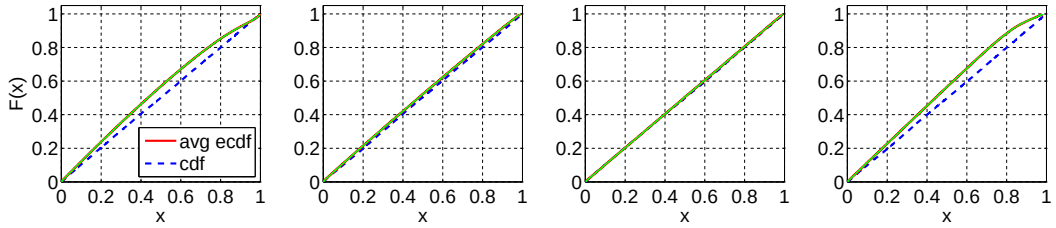


Fig. 73. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); H_2 ($c^2 = 10$): F(X), Durbin, CU, and Lewis Tests(from left to right).

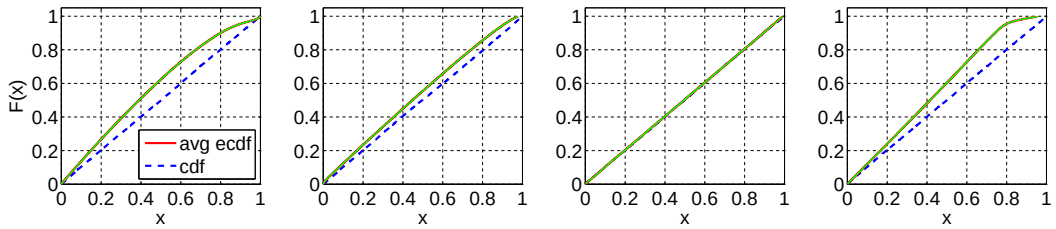


Fig. 74. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); Z: F(X), Durbin, CU, and Lewis Tests(from left to right).

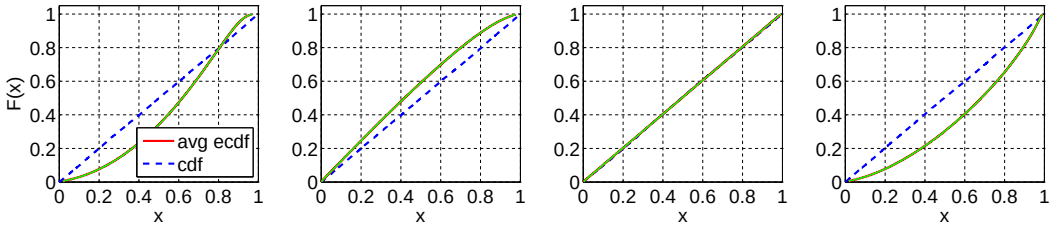


Fig. 75. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $LN(1, 0.25)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

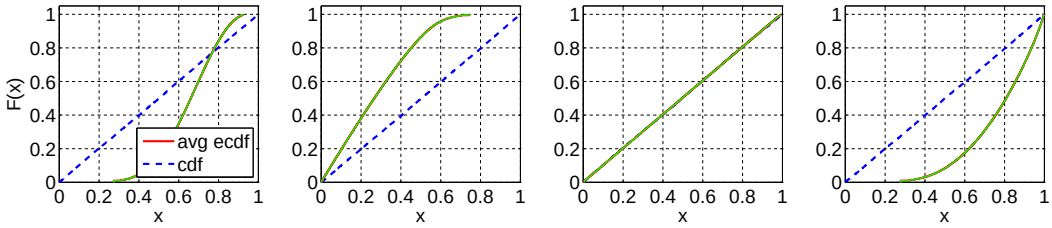


Fig. 76. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $LN(1, 1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

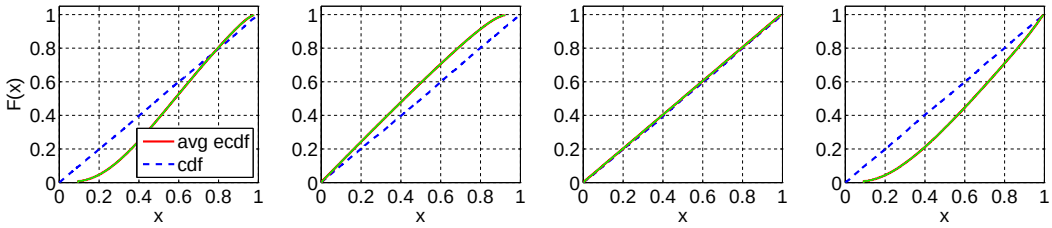


Fig. 77. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $LN(1, 4)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

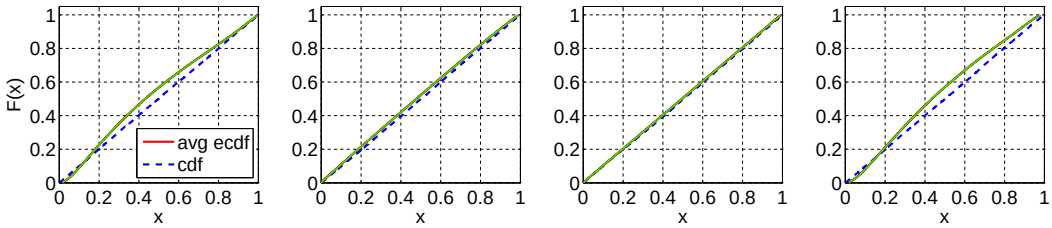


Fig. 78. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $LN(1, 10)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

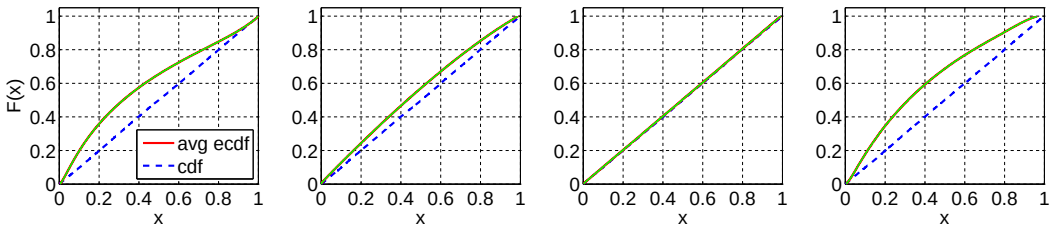


Fig. 79. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); RRI ($p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

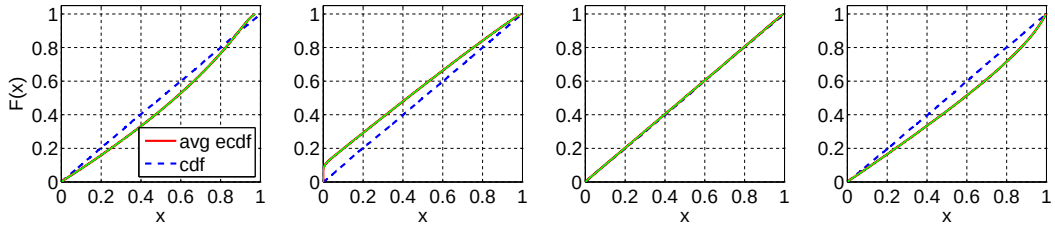


Fig. 80. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); RRI ($p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

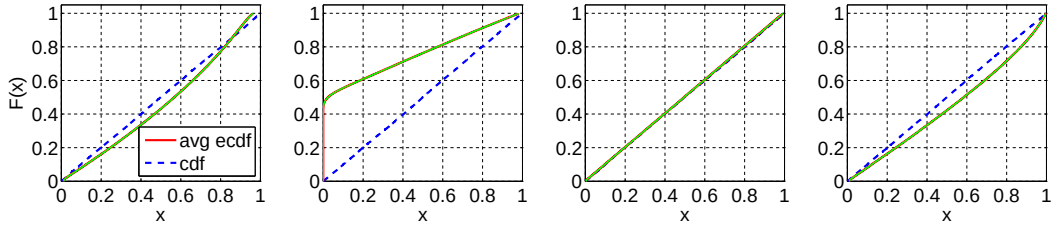


Fig. 81. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); RRI ($p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).

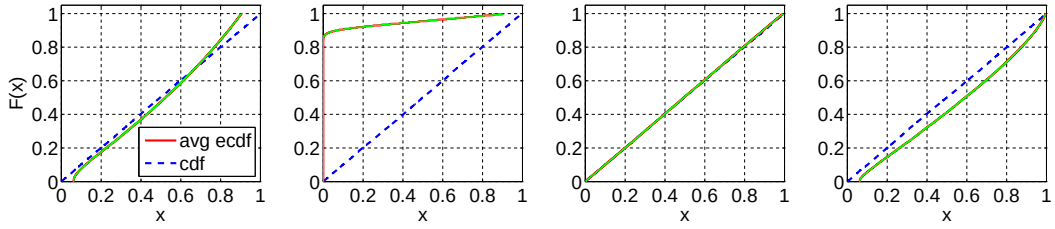


Fig. 82. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $EARMA$ (0.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

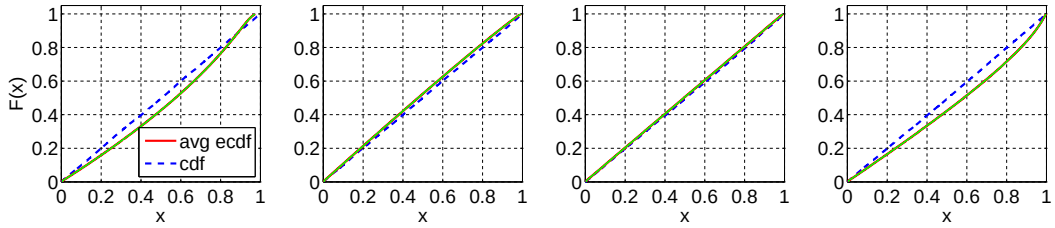


Fig. 83. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $EARMA$ (0.5): F(X), Durbin, CU, and Lewis Tests(from left to right).

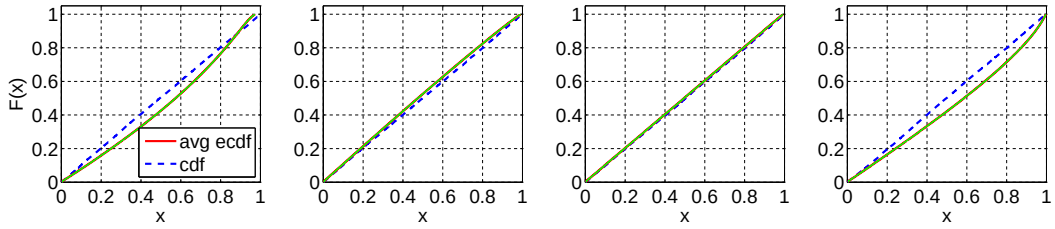


Fig. 84. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $EARMA$ (1): F(X), Durbin, CU, and Lewis Tests(from left to right).

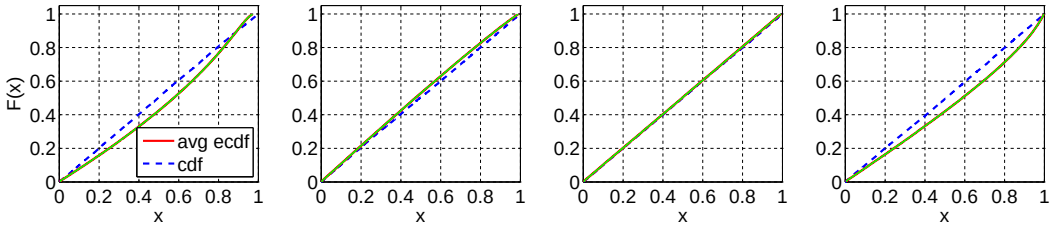


Fig. 85. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $EARMA$ (3): F(X), Durbin, CU, and Lewis Tests(from left to right).

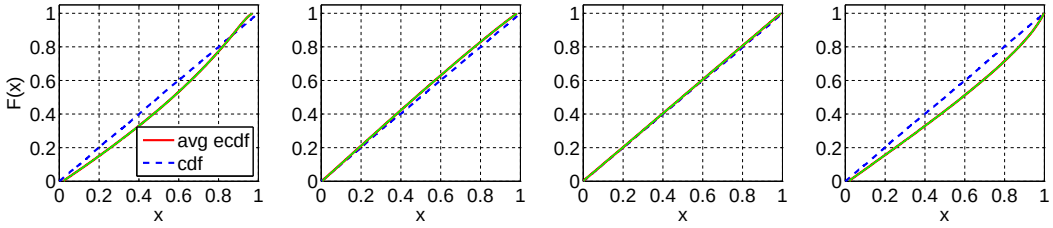


Fig. 86. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $EARMA$ (5.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

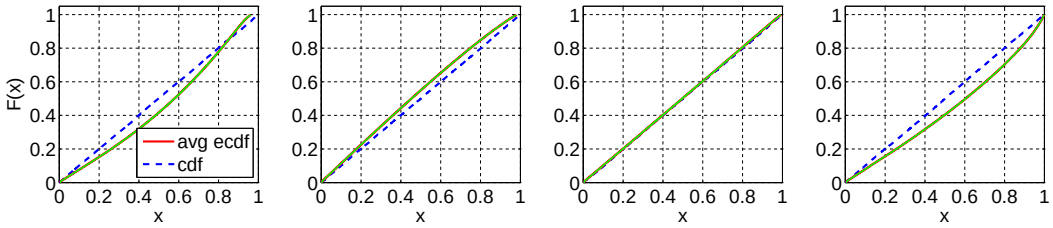


Fig. 87. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $2 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

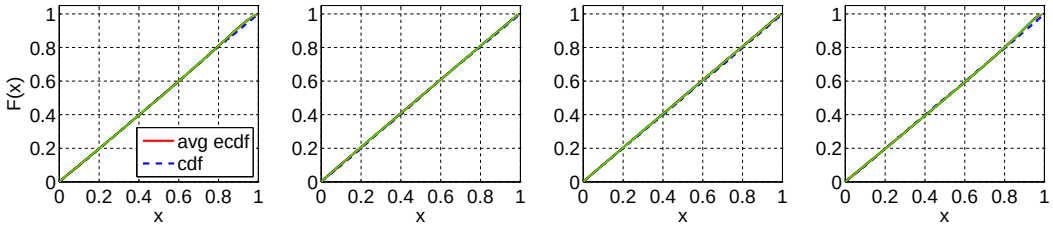


Fig. 88. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $5 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

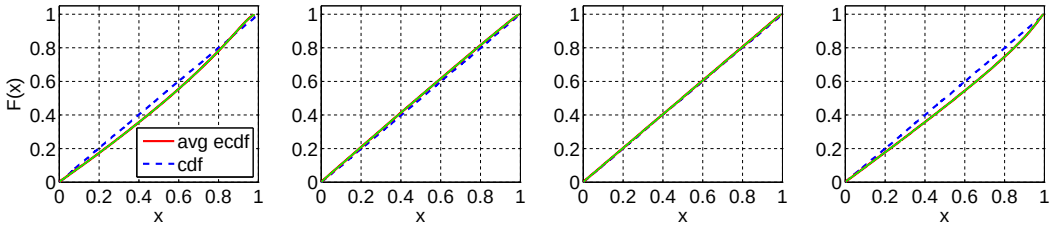


Fig. 89. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $10 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

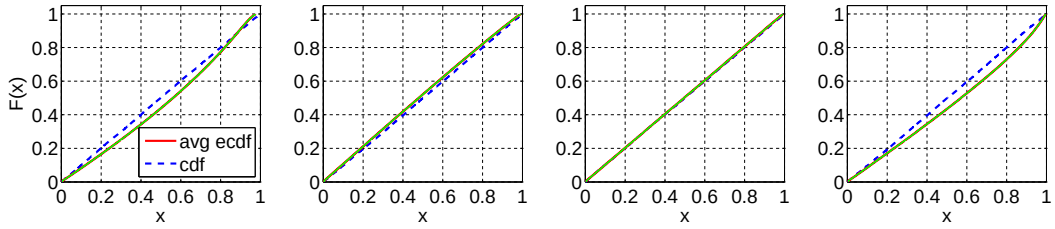


Fig. 90. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); $20 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

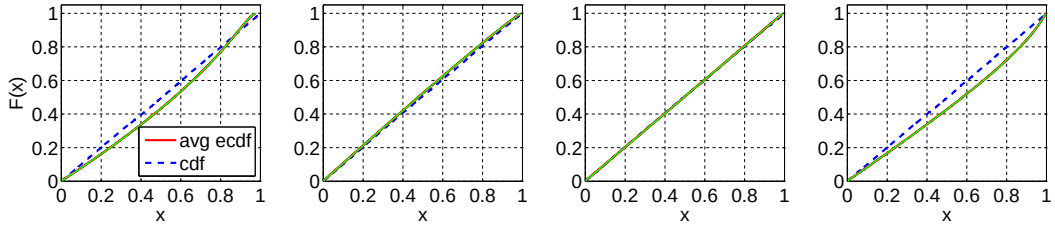


Fig. 91. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); RRI (H_2, $p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

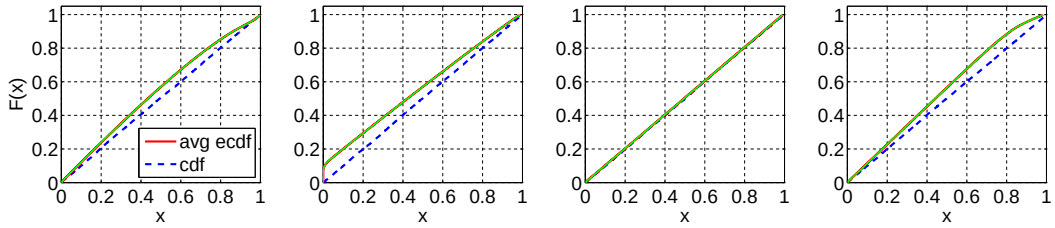


Fig. 92. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); RRI (H_2, $p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

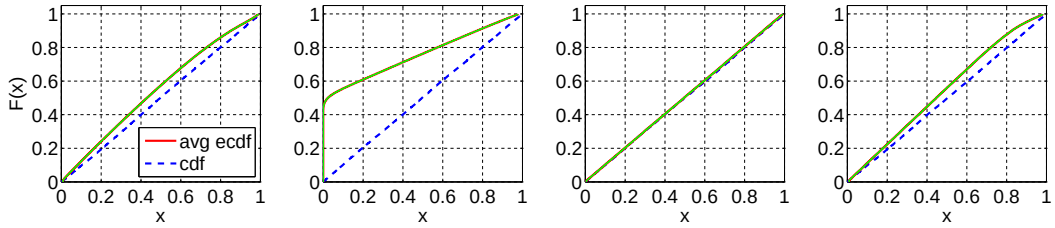
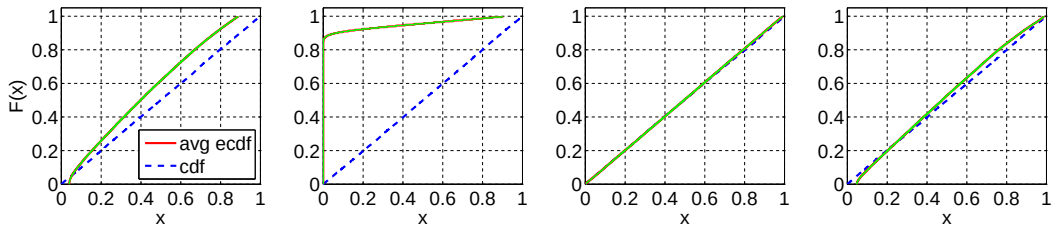


Fig. 93. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis (H_2 with $c^2 = 2$); RRI (H_2, $p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).



C.3. Closer Look at Testing for $LN(1,1)$

Table LXIV. Performance of alternative KS tests of i.i.d. $LN(1,1)$ variables for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		F(X)		Durbin		CU		Lewis	
Case	*Subcase*	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	531	0.01 ± 0.0005	3580	0.09 ± 0.0030	9304	0.45 ± 0.0056	271	0.01 ± 0.0004
E_k	$k = 2$	3064	0.08 ± 0.0028	8507	0.38 ± 0.0058	9955	0.70 ± 0.0051	729	0.01 ± 0.0009
	$k = 4$	0	0.00 ± 0.0000	125	0.00 ± 0.0003	10000	0.89 ± 0.0031	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.95 ± 0.0019	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	148	0.00 ± 0.0003	2604	0.06 ± 0.0024	8818	0.39 ± 0.0055	44	0.00 ± 0.0002
	$c^2 = 1.5$	42	0.00 ± 0.0001	1823	0.04 ± 0.0018	8411	0.33 ± 0.0052	3	0.00 ± 0.0001
	$c^2 = 2$	4	0.00 ± 0.0000	783	0.02 ± 0.0011	7646	0.26 ± 0.0047	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	43	0.00 ± 0.0002	5272	0.13 ± 0.0034	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2918	0.06 ± 0.0021	0	0.00 ± 0.0000
Z	–	6923	0.22 ± 0.0044	8486	0.37 ± 0.0058	9734	0.57 ± 0.0056	5299	0.14 ± 0.0037
LN	$(1, 0.25)$	0	0.00 ± 0.0000	1	0.00 ± 0.0000	10000	0.90 ± 0.0030	0	0.00 ± 0.0000
	$(1, 1)$	9497	0.50 ± 0.0057	9510	0.50 ± 0.0056	9512	0.50 ± 0.0057	9494	0.50 ± 0.0057
	$(1, 4)$	0	0.00 ± 0.0000	140	0.00 ± 0.0004	6066	0.17 ± 0.0039	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3573	0.08 ± 0.0024	0	0.00 ± 0.0000
RRI	$p = 0.1$	528	0.01 ± 0.0006	9	0.00 ± 0.0001	8727	0.37 ± 0.0054	320	0.01 ± 0.0005
	$p = 0.5$	377	0.01 ± 0.0005	0	0.00 ± 0.0000	4733	0.12 ± 0.0033	377	0.01 ± 0.0006
	$p = 0.9$	3	0.00 ± 0.0000	0	0.00 ± 0.0000	386	0.01 ± 0.0007	2	0.00 ± 0.0000
$EARMA$	0.25	479	0.01 ± 0.0005	3472	0.09 ± 0.0030	8257	0.32 ± 0.0052	260	0.01 ± 0.0004
	0.5	413	0.01 ± 0.0005	3490	0.08 ± 0.0029	7003	0.23 ± 0.0046	271	0.01 ± 0.0004
	1	449	0.01 ± 0.0005	3283	0.08 ± 0.0029	5391	0.15 ± 0.0039	344	0.01 ± 0.0005
	3	1257	0.03 ± 0.0018	3730	0.12 ± 0.0042	1306	0.03 ± 0.0014	1969	0.05 ± 0.0023
	5.25	532	0.01 ± 0.0007	2371	0.06 ± 0.0026	1085	0.02 ± 0.0013	662	0.01 ± 0.0007
mH_2	$m = 2$	21	0.00 ± 0.0001	1059	0.02 ± 0.0013	4947	0.13 ± 0.0034	0	0.00 ± 0.0000
	$m = 5$	166	0.00 ± 0.0003	2442	0.05 ± 0.0023	5178	0.15 ± 0.0039	61	0.00 ± 0.0002
	$m = 10$	265	0.01 ± 0.0004	2871	0.07 ± 0.0025	6181	0.21 ± 0.0047	186	0.00 ± 0.0004
	$m = 20$	365	0.01 ± 0.0004	3050	0.07 ± 0.0028	7417	0.29 ± 0.0054	267	0.01 ± 0.0004
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4401	0.10 ± 0.0029	0	0.00 ± 0.0000
	$p = 0.5$	4	0.00 ± 0.0000	0	0.00 ± 0.0000	1218	0.02 ± 0.0012	1	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	58	0.00 ± 0.0002	2	0.00 ± 0.0000

Fig. 94. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis (Exp); $LN(1,1)$: F(X), Durbin, CU, and Lewis Tests (from left to right).

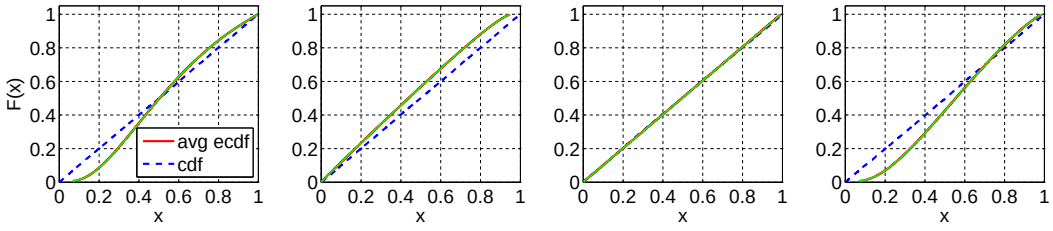


Fig. 95. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); Exp: Standard KS, Conditional-Uniform, Log, Lewis Tests (from left to right).

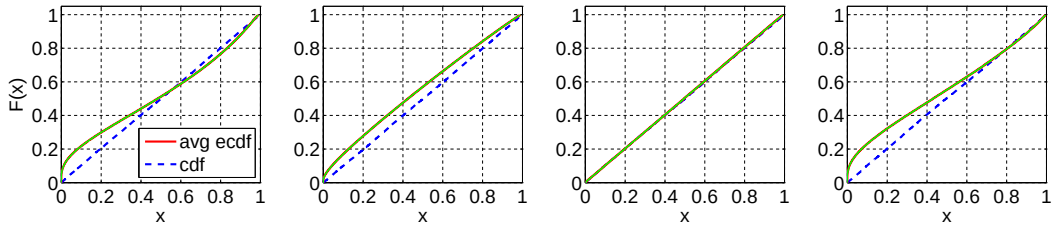


Fig. 96. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); E_2: F(X), Durbin, CU, and Lewis Tests(from left to right).

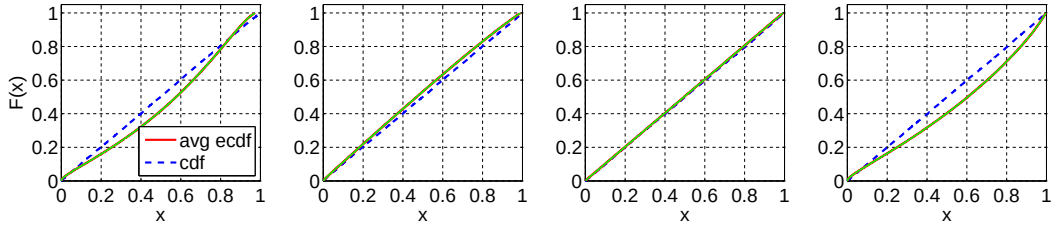


Fig. 97. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); E_4: F(X), Durbin, CU, and Lewis Tests(from left to right).

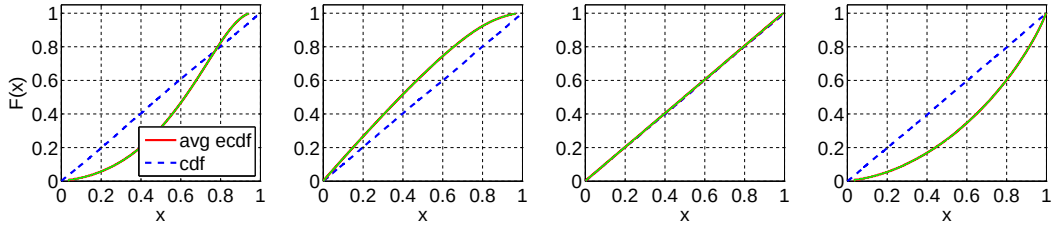


Fig. 98. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); E_6: F(X), Durbin, CU, and Lewis Tests(from left to right).

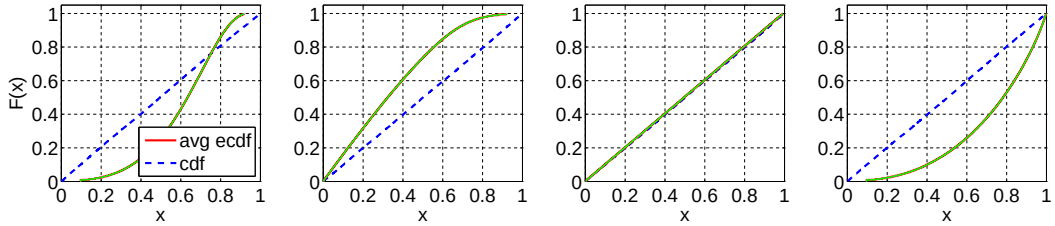


Fig. 99. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); H_2 ($c^2 = 1.25$): F(X), Durbin, CU, and Lewis Tests(from left to right).

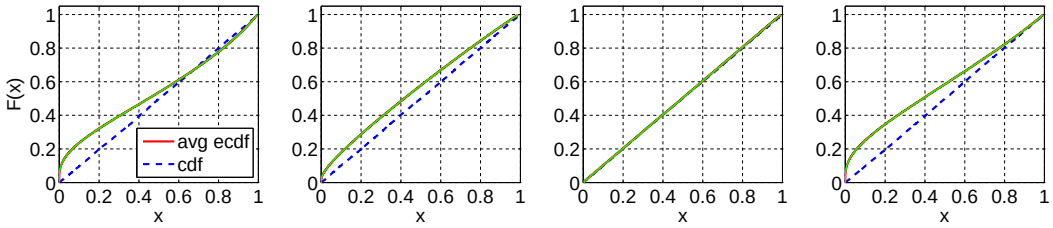


Fig. 100. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); H_2 ($c^2 = 1.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

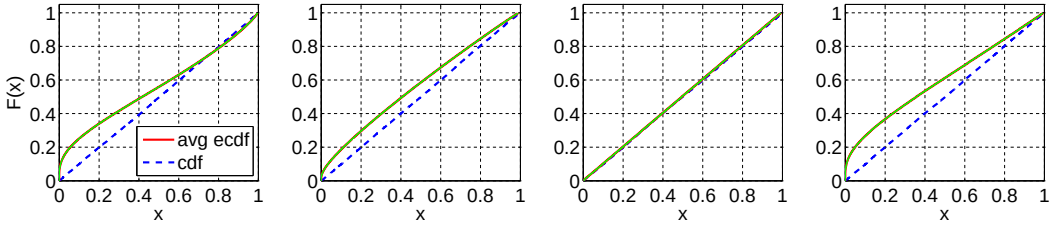


Fig. 101. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); H_2 ($c^2 = 2$): F(X), Durbin, CU, and Lewis Tests(from left to right).

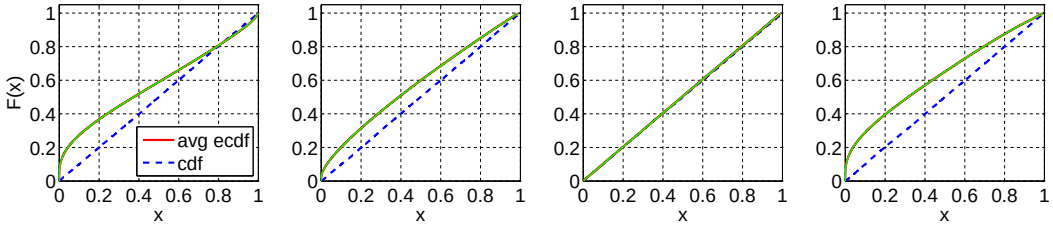


Fig. 102. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); H_2 ($c^2 = 4$): F(X), Durbin, CU, and Lewis Tests(from left to right).

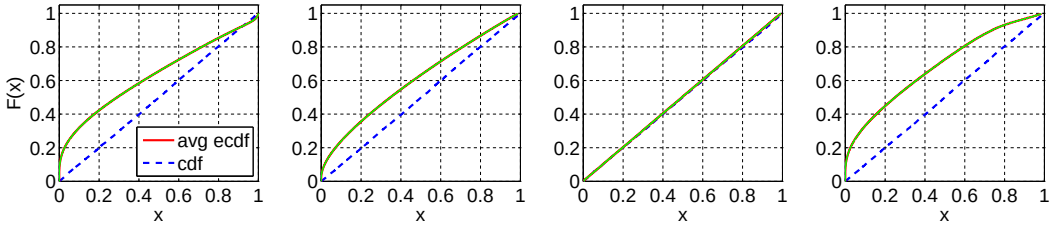


Fig. 103. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); H_2 ($c^2 = 10$): F(X), Durbin, CU, and Lewis Tests(from left to right).

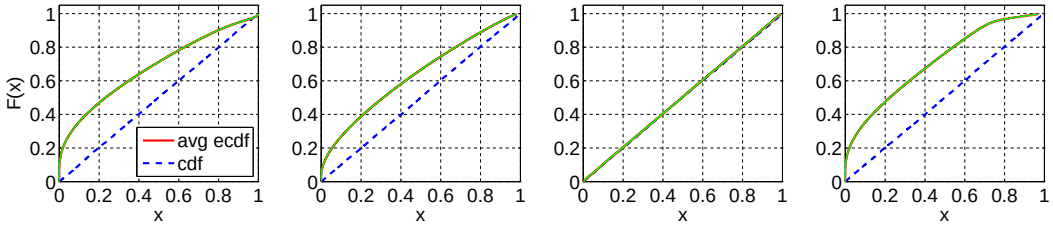


Fig. 104. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis $(LN(1,1))$; Z: F(X), Durbin, CU, and Lewis Tests(from left to right).

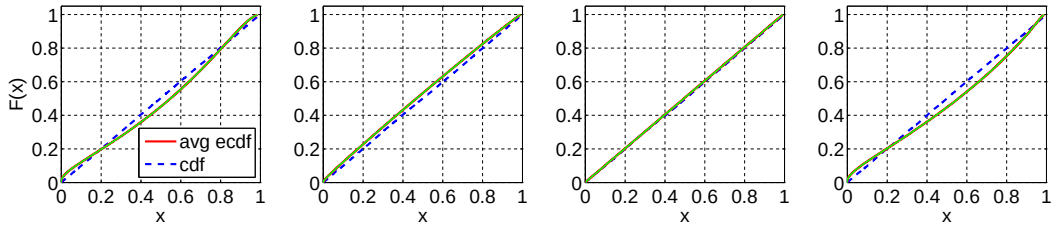


Fig. 105. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis $(LN(1,1))$; $LN(1,0.25)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

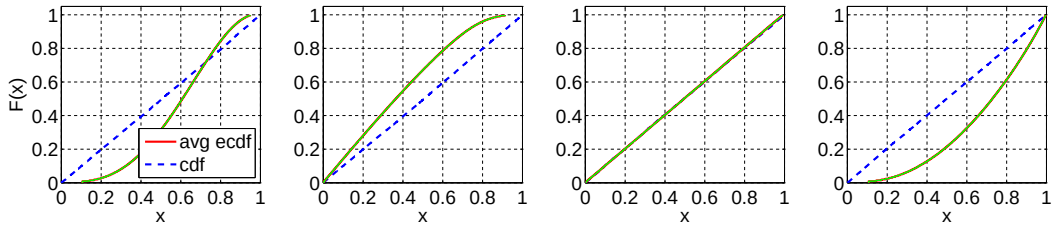


Fig. 106. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis $(LN(1,1))$; $LN(1,1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

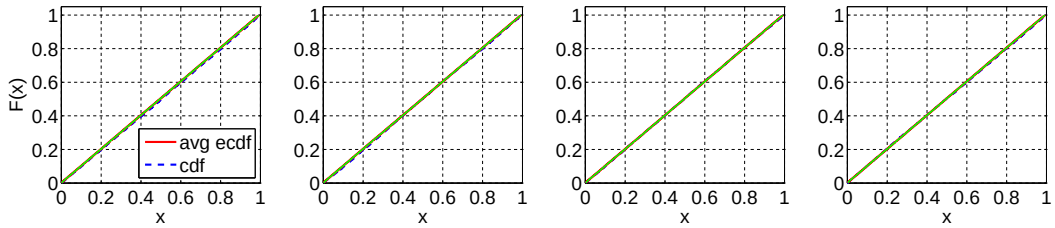


Fig. 107. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis $(LN(1,1))$; $LN(1,4)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

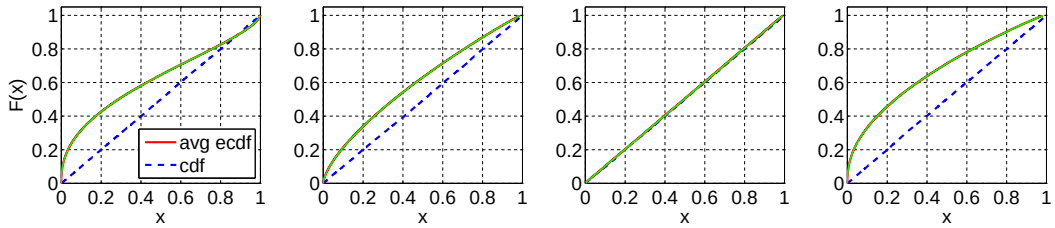


Fig. 108. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis $(LN(1,1))$; $LN(1,10)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

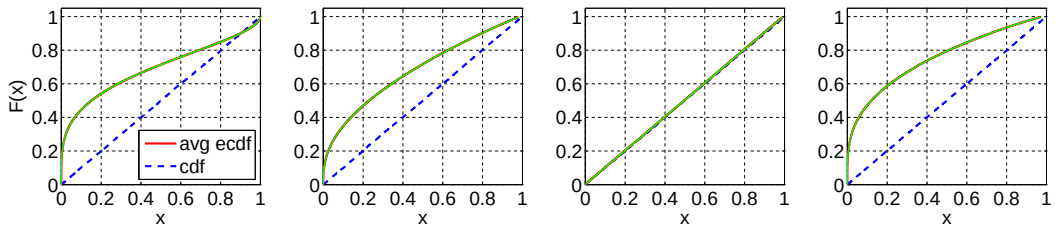


Fig. 109. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); RRI ($p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

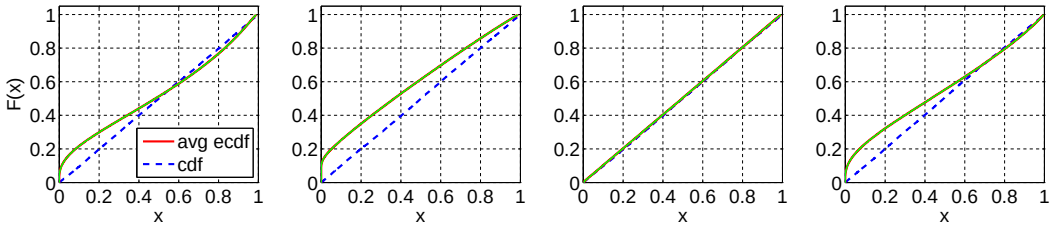


Fig. 110. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); RRI ($p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

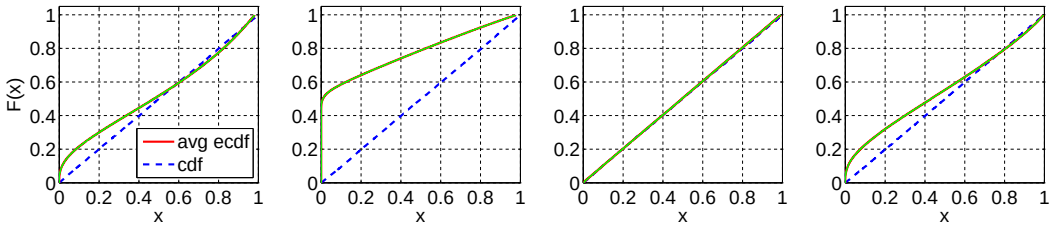


Fig. 111. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); RRI ($p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).

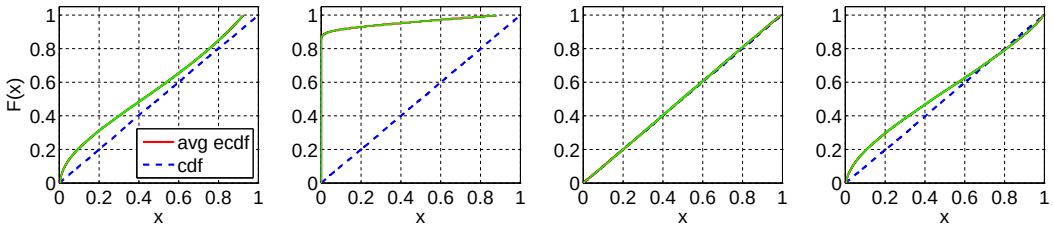


Fig. 112. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $EARMA$ (0.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

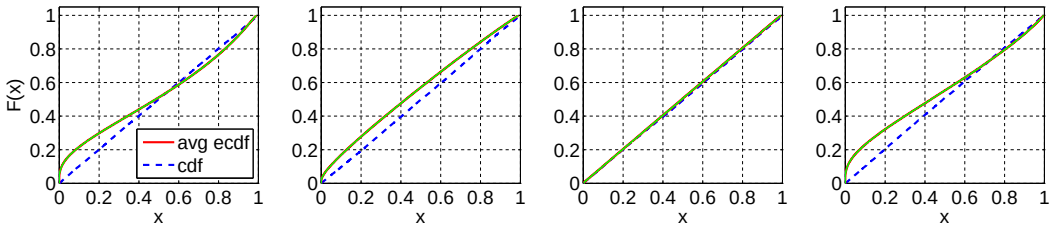


Fig. 113. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $EARMA$ (0.5): F(X), Durbin, CU, and Lewis Tests(from left to right).

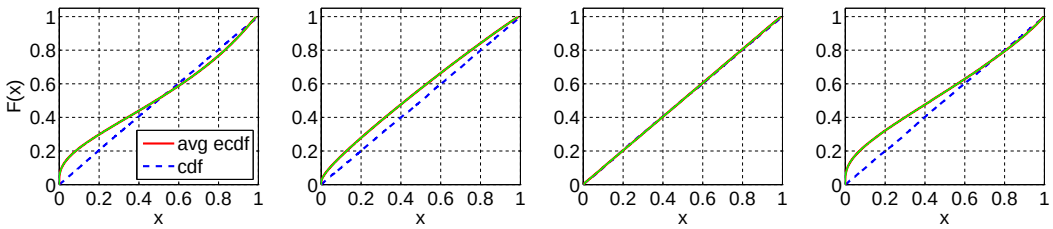


Fig. 114. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $EARMA$ (1): F(X), Durbin, CU, and Lewis Tests(from left to right).

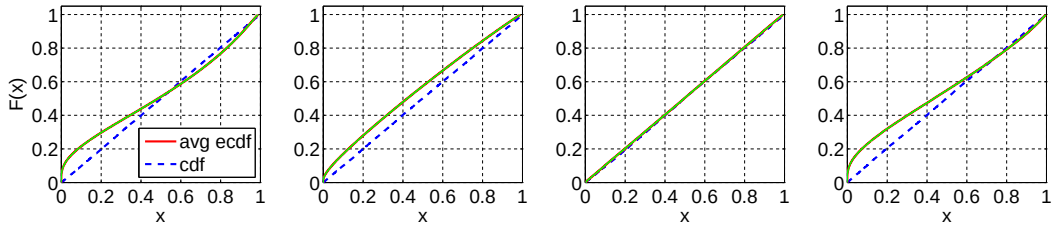


Fig. 115. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $EARMA$ (3): F(X), Durbin, CU, and Lewis Tests(from left to right).

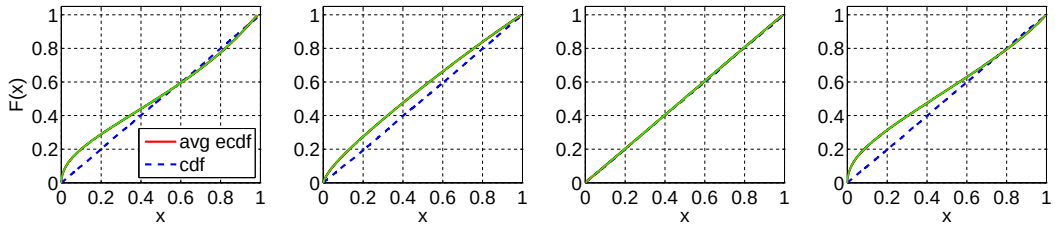


Fig. 116. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $EARMA$ (5.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

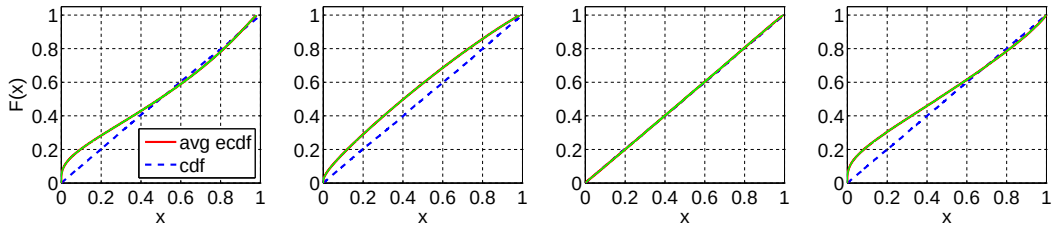


Fig. 117. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $2 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

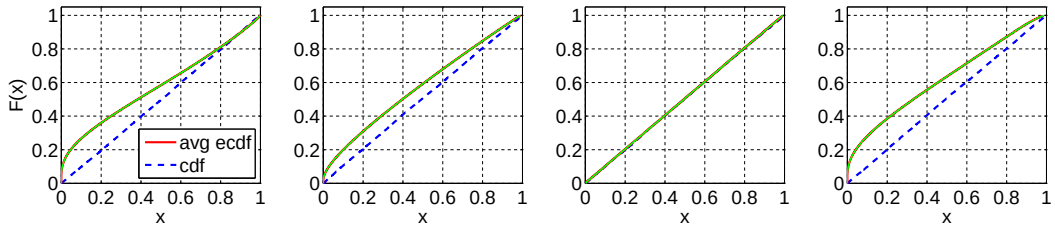


Fig. 118. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $5 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

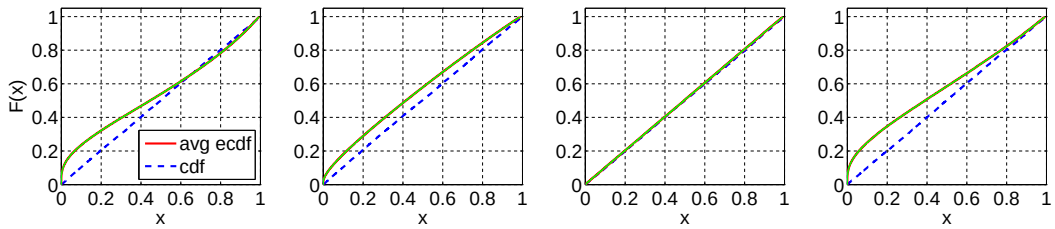


Fig. 119. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $10 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

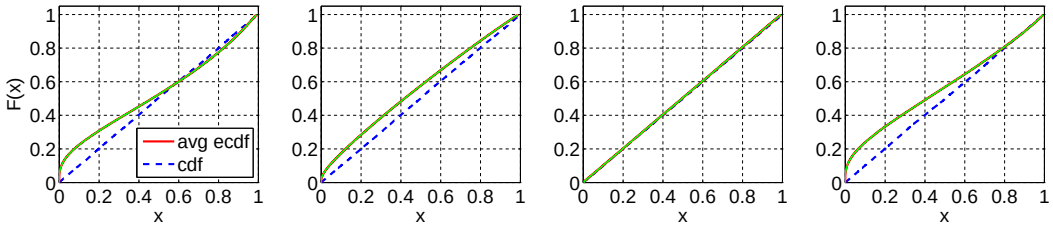


Fig. 120. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); $20 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

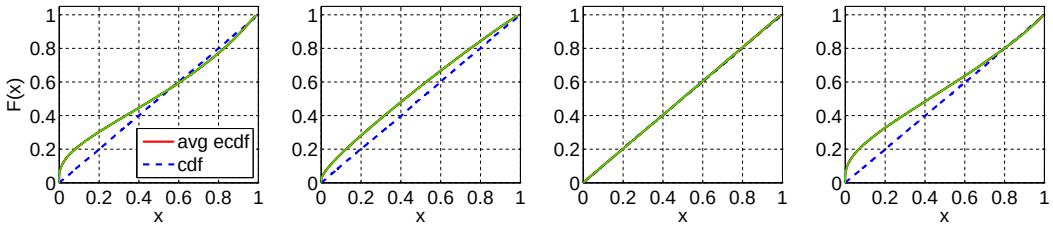


Fig. 121. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); RRI (H_2, $p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

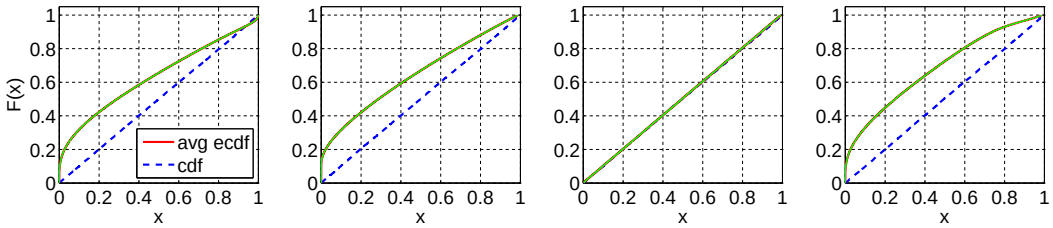


Fig. 122. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); RRI (H_2, $p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

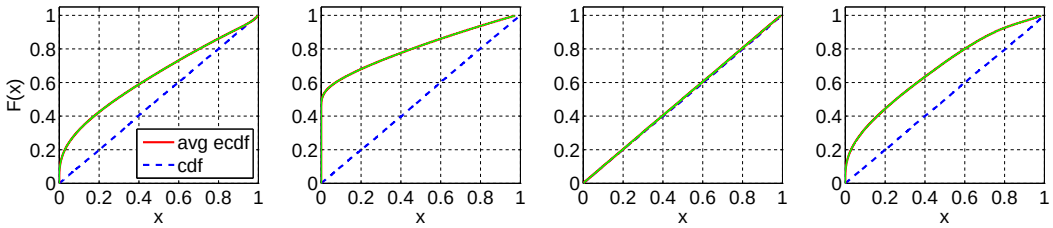
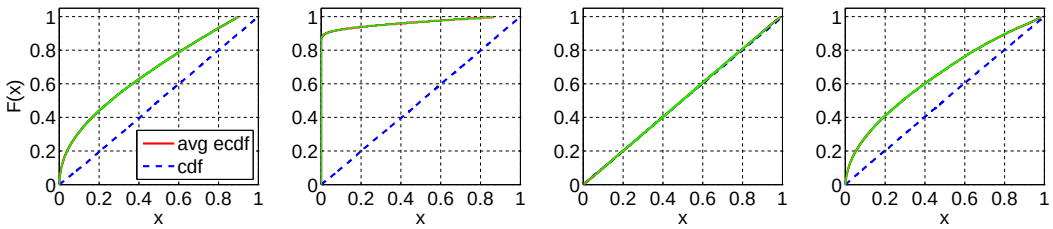


Fig. 123. Comparison of the average ecdf based on 10^4 replications for $n = 200$ with the cdf of the null hypothesis ($LN(1,1)$); RRI (H_2, $p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).



D. EXPERIMENTS WITH $N = 2000$

Table LXV. Performance of alternative KS tests of i.i.d. E_2 variables for the sample size $n = 2000$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		F(X)		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7253	0.23 ± 0.0045	0	0.00 ± 0.0000
E_k	$k = 2$	9491	0.50 ± 0.0057	9479	0.50 ± 0.0057	9506	0.50 ± 0.0056	9521	0.50 ± 0.0057
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9984	0.78 ± 0.0045	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9999	0.89 ± 0.0031	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5810	0.15 ± 0.0036	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4541	0.10 ± 0.0028	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2570	0.05 ± 0.0019	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	43	0.00 ± 0.0002	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	$-$	289	0.01 ± 0.0005	8068	0.33 ± 0.0056	4977	0.15 ± 0.0041	0	0.00 ± 0.0000
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9981	0.75 ± 0.0048	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	1467	0.03 ± 0.0016	6172	0.18 ± 0.0040	0	0.00 ± 0.0000
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	89	0.00 ± 0.0003	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	6216	0.17 ± 0.0038	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1403	0.02 ± 0.0012	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4927	0.12 ± 0.0031	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3241	0.07 ± 0.0022	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1356	0.02 ± 0.0012	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	16	0.00 ± 0.0002	93	0.00 ± 0.0002	0	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7	0.00 ± 0.0001	0	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	203	0.00 ± 0.0004	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	662	0.01 ± 0.0007	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1001	0.02 ± 0.0010	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1403	0.03 ± 0.0014	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	35	0.00 ± 0.0002	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000

Table LXVI. Performance of alternative KS tests of i.i.d. H_2 with $c^2 = 2$ variables for the sample size $n = 2000$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		F(X)		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	3291	0.08 ± 0.0028	9943	0.70 ± 0.0051	0	0.00 ± 0.0000
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9999	0.90 ± 0.0030	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.98 ± 0.0010	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0004	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	11	0.00 ± 0.0001	8209	0.34 ± 0.0056	9870	0.64 ± 0.0054	0	0.00 ± 0.0000
	$c^2 = 1.5$	1519	0.04 ± 0.0018	9314	0.48 ± 0.0057	9745	0.58 ± 0.0056	216	0.01 ± 0.0004
	$c^2 = 2$	9508	0.50 ± 0.0057	9527	0.50 ± 0.0056	9494	0.49 ± 0.0057	9524	0.50 ± 0.0056
	$c^2 = 4$	0	0.00 ± 0.0000	6224	0.21 ± 0.0048	7967	0.29 ± 0.0049	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	3	0.00 ± 0.0000	4007	0.09 ± 0.0028	0	0.00 ± 0.0000
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9991	0.81 ± 0.0043	0	0.00 ± 0.0000
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0009	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9983	0.78 ± 0.0045	0	0.00 ± 0.0000
	$(1, 4)$	0	0.00 ± 0.0000	4223	0.11 ± 0.0034	8095	0.32 ± 0.0053	1	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4015	0.10 ± 0.0031	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9844	0.62 ± 0.0054	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7274	0.24 ± 0.0046	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	162	0.00 ± 0.0003	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	3260	0.08 ± 0.0028	9663	0.55 ± 0.0057	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	3233	0.08 ± 0.0028	9072	0.42 ± 0.0056	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	3188	0.07 ± 0.0027	7775	0.27 ± 0.0049	0	0.00 ± 0.0000
	3	74	0.00 ± 0.0002	3071	0.09 ± 0.0033	2042	0.04 ± 0.0016	0	0.00 ± 0.0000
	5.25	44	0.00 ± 0.0002	2866	0.08 ± 0.0031	981	0.02 ± 0.0009	0	0.00 ± 0.0000
mH_2	$m = 2$	8351	0.32 ± 0.0051	9376	0.48 ± 0.0057	7309	0.24 ± 0.0046	7792	0.23 ± 0.0041
	$m = 5$	241	0.00 ± 0.0004	8276	0.35 ± 0.0058	6792	0.21 ± 0.0044	0	0.00 ± 0.0000
	$m = 10$	16	0.00 ± 0.0001	6200	0.20 ± 0.0047	6796	0.22 ± 0.0045	0	0.00 ± 0.0000
	$m = 20$	4	0.00 ± 0.0000	4736	0.13 ± 0.0038	7076	0.25 ± 0.0050	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7081	0.22 ± 0.0044	0	0.00 ± 0.0000
	$p = 0.5$	4	0.00 ± 0.0001	0	0.00 ± 0.0000	2192	0.04 ± 0.0017	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4	0.00 ± 0.0001	0	0.00 ± 0.0000

Table LXVII. Performance of alternative KS tests of i.i.d. $LN(1,4)$ variables for the sample size $n = 2000$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		F(X)		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	1	0.00 ± 0.0000	9980	0.76 ± 0.0046	0	0.00 ± 0.0000
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.94 ± 0.0022	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0006	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	1.00 ± 0.0002	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	102	0.00 ± 0.0004	9956	0.71 ± 0.0050	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	1191	0.03 ± 0.0014	9899	0.67 ± 0.0053	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	4591	0.12 ± 0.0037	9801	0.60 ± 0.0056	0	0.00 ± 0.0000
	$c^2 = 4$	401	0.01 ± 0.0004	4560	0.12 ± 0.0037	9290	0.45 ± 0.0056	139	0.01 ± 0.0002
	$c^2 = 10$	0	0.00 ± 0.0000	43	0.00 ± 0.0001	8375	0.33 ± 0.0052	0	0.00 ± 0.0000
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9999	0.88 ± 0.0033	0	0.00 ± 0.0000
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.99 ± 0.0004	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9999	0.86 ± 0.0036	0	0.00 ± 0.0000
	$(1, 4)$	9492	0.50 ± 0.0056	9498	0.50 ± 0.0057	9526	0.50 ± 0.0056	9474	0.49 ± 0.0056
	$(1, 10)$	0	0.00 ± 0.0000	30	0.00 ± 0.0001	8030	0.29 ± 0.0049	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9927	0.69 ± 0.0051	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8089	0.30 ± 0.0050	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	325	0.01 ± 0.0005	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9857	0.64 ± 0.0055	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9507	0.50 ± 0.0057	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	8632	0.36 ± 0.0054	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	141	0.00 ± 0.0005	2680	0.05 ± 0.0019	0	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	24	0.00 ± 0.0001	1670	0.03 ± 0.0014	0	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	3533	0.09 ± 0.0031	8529	0.35 ± 0.0053	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	194	0.00 ± 0.0004	7870	0.29 ± 0.0050	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	17	0.00 ± 0.0001	7738	0.29 ± 0.0051	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	4	0.00 ± 0.0001	7967	0.32 ± 0.0054	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	377	0.01 ± 0.0004	0	0.00 ± 0.0000	8764	0.37 ± 0.0053	124	0.01 ± 0.0002
	$p = 0.5$	170	0.00 ± 0.0003	0	0.00 ± 0.0000	4038	0.09 ± 0.0027	80	0.00 ± 0.0002
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	17	0.00 ± 0.0001	0	0.00 ± 0.0000

E. TESTS FOR $N(0,1)$

E.1. Tests for $N(0,1)$ with $n = 50$

Table LXVIII. Tests for $N(0,1)$ using $F(X)$ ($n = 50$): Average and c^2 of untransformed (X) and transformed interarrival times with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	Var	Avg	c^2	Avg	c^2	Avg	c^2
Exp	$-$	0.00	1.00	0.46	0.32	1.05	2.92	0.37	0.51
E_k	$k = 2$	0.00	0.50	0.48	0.21	0.87	3.28	0.39	0.41
	$k = 4$	0.00	0.25	0.49	0.12	0.78	5.46	0.35	0.43
	$k = 6$	0.00	0.17	0.50	0.09	0.75	7.58	0.31	0.47
H_2	$c^2 = 1.25$	0.00	1.25	0.45	0.34	1.12	3.37	0.35	0.56
	$c^2 = 1.5$	0.00	1.50	0.44	0.35	1.17	3.82	0.34	0.60
	$c^2 = 2$	0.00	1.99	0.43	0.37	1.23	4.56	0.32	0.66
	$c^2 = 4$	0.00	4.04	0.39	0.39	1.13	6.63	0.28	0.79
	$c^2 = 10$	0.00	9.84	0.35	0.37	0.73	8.36	0.26	0.85
Z	$-$	0.00	1.00	0.47	0.23	0.90	3.48	0.39	0.43
LN	$(1, 0.25)$	0.00	0.25	0.49	0.12	0.78	6.98	0.33	0.46
	$(1, 1)$	0.00	1.01	0.46	0.25	1.01	4.08	0.35	0.51
	$(1, 4)$	0.00	4.02	0.40	0.41	1.15	5.24	0.29	0.79
	$(1, 10)$	0.00	8.93	0.37	0.50	1.09	6.48	0.24	1.10
RRI	$p = 0.1$	0.00	0.99	0.46	0.32	1.05	3.19	0.34	0.68
	$p = 0.5$	0.00	0.97	0.46	0.31	1.05	5.34	0.20	2.10
	$p = 0.9$	0.01	0.73	0.46	0.23	1.07	17.69	0.05	12.97
$EARMA$	0.25	0.00	0.99	0.46	0.32	1.05	2.90	0.37	0.51
	0.5	0.00	0.98	0.46	0.31	1.05	2.95	0.37	0.51
	1	0.00	0.96	0.46	0.31	1.05	3.02	0.37	0.51
	3	0.00	0.89	0.46	0.28	1.05	3.79	0.36	0.55
	5.25	0.01	0.84	0.46	0.25	1.05	4.19	0.34	0.56
mH_2	$m = 2$	0.00	2.44	0.43	0.35	1.05	4.61	0.33	0.63
	$m = 5$	0.00	1.33	0.45	0.33	1.07	3.52	0.35	0.56
	$m = 10$	0.00	1.11	0.46	0.32	1.07	3.23	0.36	0.54
	$m = 20$	0.00	1.04	0.46	0.32	1.06	3.09	0.36	0.52
$RRI(H_2)$	$p = 0.1$	0.00	3.99	0.39	0.39	1.14	7.16	0.26	0.99
	$p = 0.5$	0.00	3.81	0.39	0.37	1.12	10.13	0.15	2.60
	$p = 0.9$	0.00	2.73	0.39	0.25	1.11	21.31	0.05	13.95
$N(0,1)$	$-$	0.00	1.00	0.50	0.34	1.00	0.99	0.50	0.34
$E_k - 1 + \sqrt{1 - 1/k}N(0,1)$	$k = 2$	0.00	1.00	0.49	0.34	1.02	1.05	0.50	0.35
	$k = 4$	0.00	1.00	0.50	0.34	1.00	0.98	0.50	0.34
	$k = 6$	0.00	1.00	0.50	0.34	1.00	0.98	0.50	0.34

Table LXIX. Tests for $N(0,1)$ using $(F(X))$ $(n = 50)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		F(X)		Log		Durbin (2-sided)		Durbin (1-sided)	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	5576	0.07 ± 0.0010	5576	0.07 ± 0.0010	5025	0.17 ± 0.0046	1871	0.04 ± 0.0016	1066	0.02 ± 0.0008
E_k	$k = 2$	3813	0.04 ± 0.0006	3813	0.04 ± 0.0006	4210	0.12 ± 0.0039	2953	0.05 ± 0.0018	1809	0.03 ± 0.0009
	$k = 4$	20	0.01 ± 0.0002	20	0.01 ± 0.0002	644	0.01 ± 0.0008	336	0.01 ± 0.0004	113	0.00 ± 0.0002
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	24	0.00 ± 0.0001	5	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	4188	0.05 ± 0.0010	4188	0.05 ± 0.0010	4245	0.13 ± 0.0039	1004	0.02 ± 0.0011	522	0.01 ± 0.0005
	$c^2 = 1.5$	3100	0.04 ± 0.0009	3100	0.04 ± 0.0009	3501	0.09 ± 0.0032	629	0.01 ± 0.0009	331	0.01 ± 0.0004
	$c^2 = 2$	1747	0.02 ± 0.0008	1747	0.02 ± 0.0008	2307	0.05 ± 0.0023	221	0.00 ± 0.0004	94	0.00 ± 0.0002
	$c^2 = 4$	222	0.00 ± 0.0003	222	0.00 ± 0.0003	492	0.01 ± 0.0008	17	0.00 ± 0.0001	5	0.00 ± 0.0000
	$c^2 = 10$	7	0.00 ± 0.0001	7	0.00 ± 0.0001	12	0.00 ± 0.0001	1	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	–	4836	0.05 ± 0.0008	4836	0.05 ± 0.0008	4033	0.12 ± 0.0040	2671	0.05 ± 0.0018	1653	0.03 ± 0.0009
LN	$(1, 0.25)$	0	0.00 ± 0.0001	0	0.00 ± 0.0001	317	0.01 ± 0.0006	41	0.00 ± 0.0001	6	0.00 ± 0.0001
	$(1, 1)$	1722	0.03 ± 0.0005	1722	0.03 ± 0.0005	3171	0.09 ± 0.0034	700	0.01 ± 0.0007	337	0.01 ± 0.0004
	$(1, 4)$	460	0.01 ± 0.0004	460	0.01 ± 0.0004	776	0.02 ± 0.0011	31	0.00 ± 0.0002	14	0.00 ± 0.0001
	$(1, 10)$	24	0.00 ± 0.0001	24	0.00 ± 0.0001	82	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	5219	0.06 ± 0.0010	5219	0.06 ± 0.0010	3564	0.09 ± 0.0029	763	0.01 ± 0.0009	378	0.01 ± 0.0004
	$p = 0.5$	2791	0.03 ± 0.0008	2791	0.03 ± 0.0008	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	62	0.00 ± 0.0001	62	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	5395	0.07 ± 0.0010	5395	0.07 ± 0.0010	4838	0.16 ± 0.0046	1813	0.04 ± 0.0016	1070	0.02 ± 0.0008
	0.5	5296	0.06 ± 0.0011	5296	0.06 ± 0.0011	4703	0.16 ± 0.0046	1872	0.04 ± 0.0016	1109	0.02 ± 0.0008
	1	5028	0.06 ± 0.0011	5028	0.06 ± 0.0011	4318	0.15 ± 0.0045	1884	0.04 ± 0.0017	1151	0.02 ± 0.0008
	3	3034	0.03 ± 0.0008	3034	0.03 ± 0.0008	3369	0.11 ± 0.0041	2492	0.05 ± 0.0019	1718	0.03 ± 0.0010
	5.25	3446	0.04 ± 0.0010	3446	0.04 ± 0.0010	3081	0.11 ± 0.0043	2049	0.05 ± 0.0020	1407	0.02 ± 0.0010
mH_2	$m = 2$	2363	0.03 ± 0.0009	2363	0.03 ± 0.0009	2548	0.07 ± 0.0028	460	0.01 ± 0.0007	223	0.00 ± 0.0004
	$m = 5$	4045	0.05 ± 0.0010	4045	0.05 ± 0.0010	3756	0.12 ± 0.0039	1109	0.02 ± 0.0012	596	0.01 ± 0.0006
	$m = 10$	4667	0.06 ± 0.0010	4667	0.06 ± 0.0010	4181	0.14 ± 0.0042	1477	0.03 ± 0.0015	854	0.02 ± 0.0007
	$m = 20$	4932	0.06 ± 0.0010	4932	0.06 ± 0.0010	4439	0.15 ± 0.0044	1636	0.03 ± 0.0015	908	0.02 ± 0.0007
$RRI(H_2)$	$p = 0.1$	302	0.01 ± 0.0003	302	0.01 ± 0.0003	277	0.01 ± 0.0005	3	0.00 ± 0.0001	3	0.00 ± 0.0000
	$p = 0.5$	454	0.01 ± 0.0004	454	0.01 ± 0.0004	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	17	0.00 ± 0.0001	17	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$N(0,1)$	–	9447	0.50 ± 0.0057	9447	0.50 ± 0.0057	9466	0.49 ± 0.0057	9460	0.50 ± 0.0057	9445	0.49 ± 0.0057
$E_k - 1 + \sqrt{1 - 1/k}N(0,1)$	$k = 2$	9336	0.47 ± 0.0057	9336	0.47 ± 0.0057	9369	0.48 ± 0.0057	9472	0.49 ± 0.0057	9351	0.47 ± 0.0057
	$k = 4$	9526	0.51 ± 0.0056	9526	0.51 ± 0.0056	9488	0.50 ± 0.0056	9493	0.50 ± 0.0057	9467	0.50 ± 0.0057
	$k = 6$	9503	0.50 ± 0.0057	9503	0.50 ± 0.0057	9414	0.49 ± 0.0057	9476	0.50 ± 0.0057	9500	0.50 ± 0.0057

Table LXX. Tests for $N(0,1)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n = 50$): Average and c^2 of untransformed (X) and transformed interarrival times with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.33	0.98	0.43	0.65	0.26	0.50	0.36	1.02	2.11	0.43	0.25
E_k	$k=2$	0.50	0.33	0.98	0.33	0.68	0.18	0.50	0.34	0.99	0.95	0.57	0.13
	$k=4$	0.50	0.33	0.97	0.23	0.73	0.11	0.50	0.33	0.97	0.41	0.68	0.07
	$k=6$	0.50	0.33	0.97	0.17	0.77	0.07	0.50	0.33	0.97	0.26	0.74	0.05
H_2	$c^2=1.25$	0.50	0.33	0.99	0.43	0.65	0.26	0.50	0.37	1.04	2.77	0.40	0.27
	$c^2=1.5$	0.50	0.33	0.99	0.43	0.66	0.25	0.50	0.38	1.06	3.31	0.37	0.28
	$c^2=2$	0.50	0.33	0.99	0.42	0.68	0.24	0.50	0.40	1.07	4.07	0.35	0.30
	$c^2=4$	0.50	0.33	0.98	0.35	0.72	0.20	0.49	0.42	1.10	5.12	0.34	0.27
	$c^2=10$	0.50	0.33	0.97	0.24	0.76	0.14	0.49	0.40	1.06	4.09	0.45	0.12
Z	–	0.50	0.33	0.98	0.34	0.68	0.19	0.50	0.35	1.01	1.60	0.53	0.15
LN	$(1, 0.25)$	0.50	0.33	0.97	0.20	0.75	0.10	0.50	0.33	0.98	0.49	0.69	0.06
	$(1,1)$	0.50	0.33	0.98	0.34	0.69	0.20	0.50	0.36	1.03	2.34	0.47	0.16
	$(1,4)$	0.50	0.33	0.99	0.37	0.70	0.23	0.50	0.40	1.09	4.38	0.34	0.29
	$(1,10)$	0.50	0.33	0.98	0.35	0.73	0.21	0.49	0.42	1.10	5.22	0.31	0.32
RRI	$p=0.1$	0.50	0.33	0.99	0.43	0.65	0.26	0.50	0.36	1.03	2.02	0.44	0.25
	$p=0.5$	0.50	0.34	1.01	0.48	0.65	0.26	0.50	0.39	1.06	1.71	0.47	0.27
	$p=0.9$	0.50	0.40	1.08	0.65	0.71	0.26	0.50	0.43	1.09	0.75	0.64	0.23
$EARMA$	0.25	0.50	0.33	0.99	0.43	0.65	0.26	0.50	0.37	1.03	1.98	0.44	0.25
	0.5	0.50	0.33	0.99	0.43	0.65	0.26	0.50	0.37	1.04	1.85	0.45	0.25
	1	0.50	0.34	0.99	0.45	0.65	0.27	0.50	0.38	1.04	1.57	0.46	0.25
	3	0.50	0.36	1.03	0.51	0.66	0.26	0.50	0.42	1.10	1.08	0.49	0.22
	5.25	0.50	0.35	1.02	0.57	0.65	0.28	0.50	0.41	1.06	0.77	0.54	0.22
mH_2	$m=2$	0.50	0.33	0.99	0.40	0.68	0.23	0.50	0.40	1.06	3.24	0.40	0.24
	$m=5$	0.50	0.33	0.99	0.43	0.66	0.26	0.50	0.38	1.04	2.32	0.43	0.25
	$m=10$	0.50	0.33	0.99	0.43	0.65	0.26	0.50	0.37	1.03	2.13	0.43	0.25
	$m=20$	0.50	0.33	0.99	0.43	0.65	0.26	0.50	0.36	1.03	2.09	0.44	0.25
$RRI(H_2)$	$p=0.1$	0.50	0.33	0.99	0.38	0.72	0.20	0.49	0.43	1.11	5.00	0.35	0.28
	$p=0.5$	0.50	0.34	1.00	0.45	0.72	0.20	0.50	0.46	1.14	3.57	0.41	0.36
	$p=0.9$	0.50	0.39	1.11	0.79	0.77	0.22	0.50	0.46	1.11	1.07	0.65	0.28
$N(0,1)$	–	0.50	0.34	1.00	0.98	0.50	0.34	0.50	0.34	1.00	0.98	0.50	0.34
$E_k - 1 + \sqrt{1-1/k}N(0,1)$	$k=2$	0.50	0.34	1.00	0.81	0.53	0.32	0.50	0.34	1.01	1.26	0.48	0.33
	$k=4$	0.50	0.34	1.00	0.93	0.51	0.34	0.50	0.34	1.00	1.04	0.49	0.34
	$k=6$	0.50	0.34	1.00	0.95	0.50	0.34	0.50	0.34	1.00	1.01	0.50	0.34

Table LXXI. Tests for $N(0,1)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n = 50$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	9995	0.84 ± 0.0038	4682	0.09 ± 0.0023	207	0.00 ± 0.0004	6716	0.23 ± 0.0049	4606	0.08 ± 0.0019	1154	0.02 ± 0.0006
E_k	$k = 2$	10000	0.88 ± 0.0032	3327	0.06 ± 0.0018	82	0.00 ± 0.0002	9364	0.52 ± 0.0059	2693	0.04 ± 0.0010	376	0.01 ± 0.0004
	$k = 4$	10000	0.94 ± 0.0020	367	0.01 ± 0.0004	0	0.00 ± 0.0000	9977	0.81 ± 0.0043	29	0.00 ± 0.0001	0	0.00 ± 0.0000
	$k = 6$	10000	0.97 ± 0.0013	20	0.00 ± 0.0001	0	0.00 ± 0.0000	10000	0.92 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9998	0.85 ± 0.0036	3853	0.07 ± 0.0019	95	0.00 ± 0.0002	5051	0.16 ± 0.0043	3453	0.06 ± 0.0018	417	0.01 ± 0.0004
	$c^2 = 1.5$	9994	0.86 ± 0.0035	3155	0.05 ± 0.0016	44	0.00 ± 0.0002	4022	0.12 ± 0.0039	2631	0.05 ± 0.0016	174	0.00 ± 0.0003
	$c^2 = 2$	10000	0.88 ± 0.0032	2116	0.03 ± 0.0011	10	0.00 ± 0.0001	2639	0.07 ± 0.0031	1700	0.03 ± 0.0014	36	0.00 ± 0.0001
	$c^2 = 4$	10000	0.92 ± 0.0026	614	0.01 ± 0.0005	0	0.00 ± 0.0000	1237	0.04 ± 0.0027	619	0.01 ± 0.0009	1	0.00 ± 0.0000
	$c^2 = 10$	10000	0.96 ± 0.0017	74	0.00 ± 0.0002	0	0.00 ± 0.0000	1870	0.09 ± 0.0046	263	0.00 ± 0.0005	0	0.00 ± 0.0000
Z	$-$	10000	0.88 ± 0.0032	3291	0.06 ± 0.0018	71	0.00 ± 0.0002	7273	0.37 ± 0.0065	2923	0.04 ± 0.0012	533	0.01 ± 0.0004
LN	$(1, 0.25)$	10000	0.96 ± 0.0017	132	0.00 ± 0.0002	0	0.00 ± 0.0000	9915	0.76 ± 0.0050	17	0.00 ± 0.0001	0	0.00 ± 0.0000
	$(1, 1)$	10000	0.90 ± 0.0029	1945	0.03 ± 0.0012	10	0.00 ± 0.0001	5971	0.24 ± 0.0055	1958	0.03 ± 0.0010	89	0.00 ± 0.0002
	$(1, 4)$	10000	0.90 ± 0.0029	885	0.02 ± 0.0006	0	0.00 ± 0.0000	2027	0.06 ± 0.0028	914	0.02 ± 0.0010	5	0.00 ± 0.0000
	$(1, 10)$	9999	0.93 ± 0.0024	203	0.01 ± 0.0003	0	0.00 ± 0.0000	1168	0.03 ± 0.0021	437	0.01 ± 0.0007	1	0.00 ± 0.0000
RRI	$p = 0.1$	9989	0.79 ± 0.0043	4364	0.08 ± 0.0023	255	0.01 ± 0.0004	6239	0.21 ± 0.0049	4359	0.08 ± 0.0020	1152	0.02 ± 0.0007
	$p = 0.5$	9315	0.53 ± 0.0062	2469	0.05 ± 0.0019	266	0.01 ± 0.0005	4283	0.13 ± 0.0039	2720	0.05 ± 0.0018	788	0.01 ± 0.0007
	$p = 0.9$	5834	0.31 ± 0.0071	213	0.00 ± 0.0005	8	0.00 ± 0.0001	3696	0.17 ± 0.0057	264	0.00 ± 0.0005	15	0.00 ± 0.0001
$EARMA$	0.25	9974	0.79 ± 0.0044	4519	0.09 ± 0.0024	292	0.01 ± 0.0005	5820	0.20 ± 0.0048	4348	0.08 ± 0.0020	1120	0.02 ± 0.0007
	0.5	9920	0.72 ± 0.0052	4376	0.09 ± 0.0025	508	0.01 ± 0.0006	5140	0.17 ± 0.0045	4200	0.08 ± 0.0023	1192	0.02 ± 0.0008
	1	9813	0.69 ± 0.0056	4284	0.09 ± 0.0027	667	0.01 ± 0.0008	4883	0.17 ± 0.0047	3986	0.08 ± 0.0023	1370	0.02 ± 0.0010
	3	7235	0.31 ± 0.0061	3502	0.10 ± 0.0036	1301	0.03 ± 0.0017	2970	0.09 ± 0.0034	3464	0.09 ± 0.0031	1474	0.03 ± 0.0014
	5.25	8277	0.46 ± 0.0071	3039	0.09 ± 0.0033	1482	0.04 ± 0.0020	4275	0.17 ± 0.0053	2471	0.06 ± 0.0025	2115	0.05 ± 0.0023
mH_2	$m = 2$	9977	0.80 ± 0.0045	2446	0.04 ± 0.0015	82	0.00 ± 0.0002	2777	0.09 ± 0.0038	1740	0.03 ± 0.0015	76	0.00 ± 0.0002
	$m = 5$	9926	0.76 ± 0.0051	3571	0.07 ± 0.0022	352	0.01 ± 0.0005	4591	0.16 ± 0.0046	3001	0.06 ± 0.0021	421	0.01 ± 0.0005
	$m = 10$	9948	0.79 ± 0.0047	4033	0.08 ± 0.0024	474	0.01 ± 0.0006	5682	0.20 ± 0.0049	3803	0.07 ± 0.0020	706	0.01 ± 0.0006
	$m = 20$	9978	0.82 ± 0.0043	4187	0.09 ± 0.0024	457	0.01 ± 0.0006	6361	0.23 ± 0.0050	4003	0.07 ± 0.0021	891	0.02 ± 0.0007
$RRI(H_2)$	$p = 0.1$	9997	0.89 ± 0.0032	701	0.01 ± 0.0006	0	0.00 ± 0.0000	1306	0.04 ± 0.0028	697	0.01 ± 0.0009	3	0.00 ± 0.0000
	$p = 0.5$	9730	0.69 ± 0.0058	601	0.01 ± 0.0007	5	0.00 ± 0.0001	2009	0.07 ± 0.0037	784	0.01 ± 0.0010	12	0.00 ± 0.0001
	$p = 0.9$	7121	0.45 ± 0.0078	95	0.00 ± 0.0003	5	0.00 ± 0.0000	4063	0.21 ± 0.0065	136	0.00 ± 0.0004	1	0.00 ± 0.0000
$N(0,1)$	$-$	9501	0.50 ± 0.0056	9533	0.50 ± 0.0056	9483	0.50 ± 0.0057	9501	0.50 ± 0.0056	9507	0.50 ± 0.0056	9492	0.50 ± 0.0057
$E_k - 1 + cN(0,1)$	$k = 2$	9789	0.59 ± 0.0055	9401	0.47 ± 0.0056	8944	0.43 ± 0.0059	8782	0.40 ± 0.0057	9065	0.45 ± 0.0058	8393	0.38 ± 0.0058
$(c = \sqrt{1 - 1/k})$	$k = 4$	9596	0.53 ± 0.0056	9525	0.51 ± 0.0057	9534	0.51 ± 0.0056	9330	0.47 ± 0.0057	9429	0.49 ± 0.0057	9410	0.48 ± 0.0057
	$k = 6$	9531	0.51 ± 0.0056	9497	0.50 ± 0.0056	9480	0.50 ± 0.0057	9427	0.49 ± 0.0057	9465	0.49 ± 0.0057	9445	0.49 ± 0.0057

E.2. Plots of the Average Empirical Distributions - Tests for $N(0,1)$ with $n = 50$

Fig. 124. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); Exp: Standard KS, Conditional-Uniform, Log, Lewis Tests (from left to right).

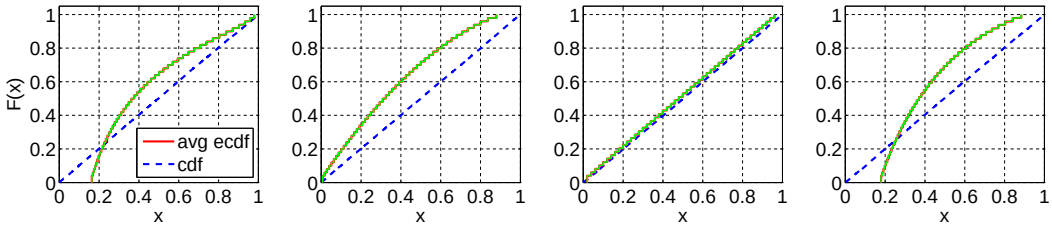


Fig. 125. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); E_2: F(X), Durbin, CU, and Lewis Tests(from left to right).

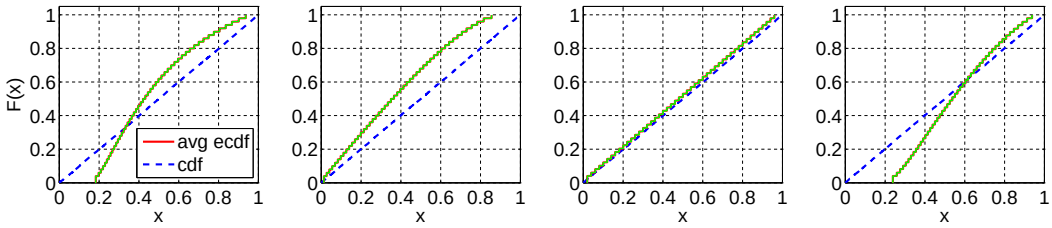


Fig. 126. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); E_4: F(X), Durbin, CU, and Lewis Tests(from left to right).

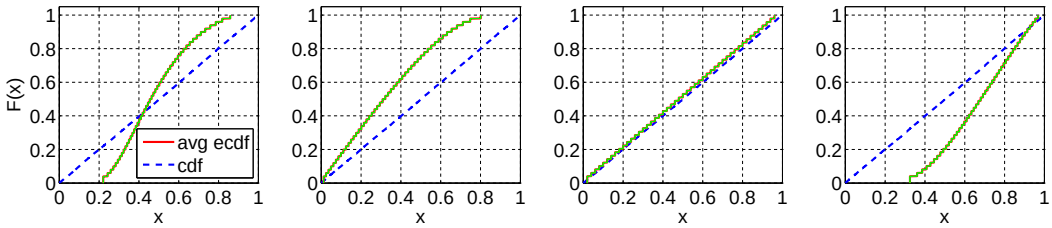


Fig. 127. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); E_6: F(X), Durbin, CU, and Lewis Tests(from left to right).

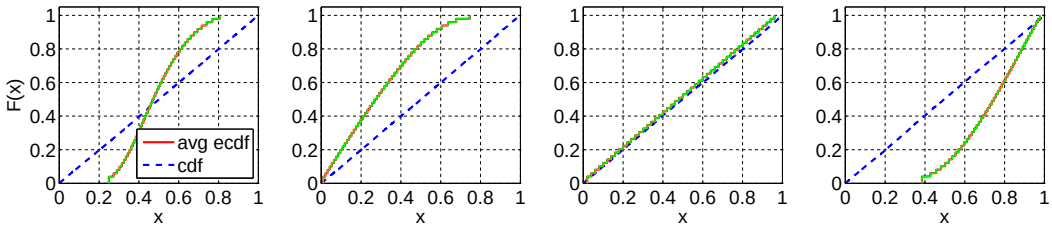


Fig. 128. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); H_2 ($c^2 = 1.25$): F(X), Durbin, CU, and Lewis Tests(from left to right).

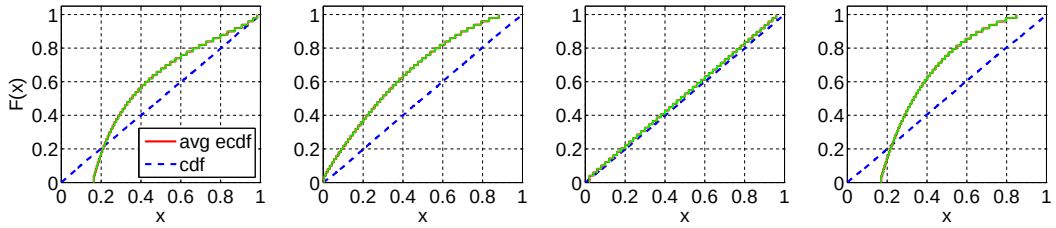


Fig. 129. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); H_2 ($c^2 = 1.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

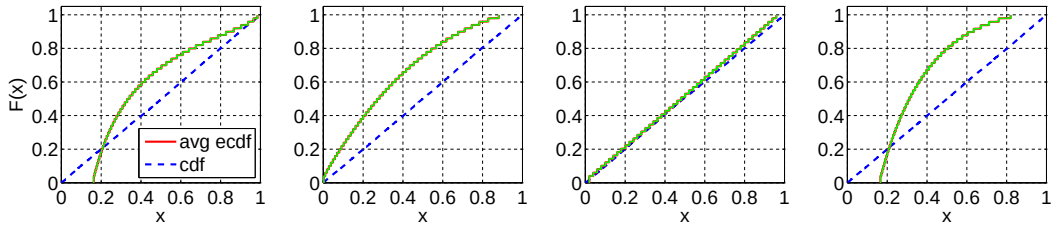


Fig. 130. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); H_2 ($c^2 = 2$): F(X), Durbin, CU, and Lewis Tests(from left to right).

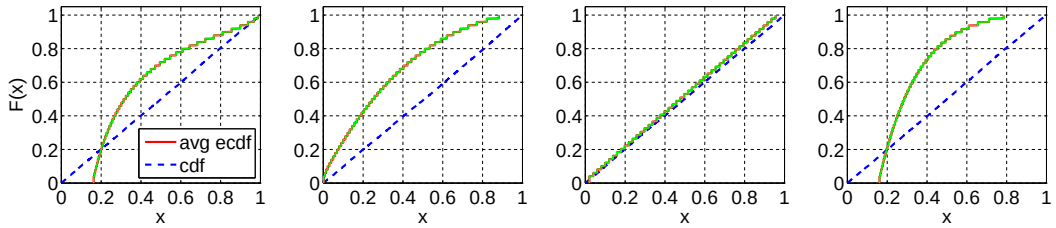


Fig. 131. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); H_2 ($c^2 = 4$): F(X), Durbin, CU, and Lewis Tests(from left to right).

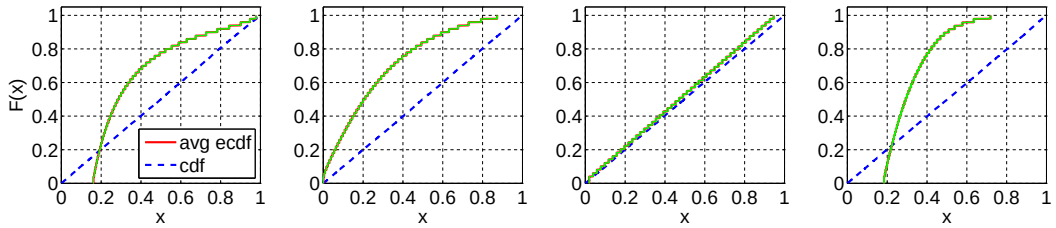


Fig. 132. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); H_2 ($c^2 = 10$): F(X), Durbin, CU, and Lewis Tests(from left to right).

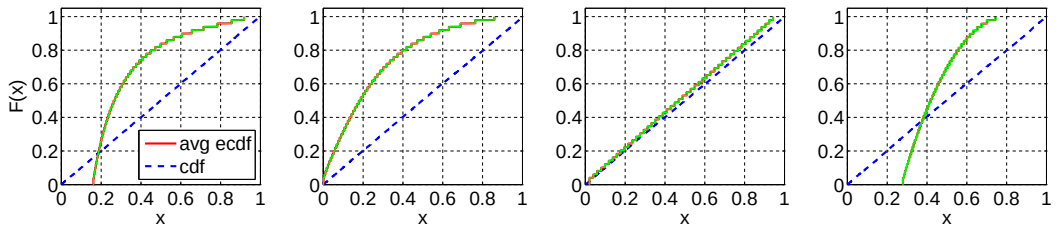


Fig. 133. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); Z: F(X), Durbin, CU, and Lewis Tests(from left to right).

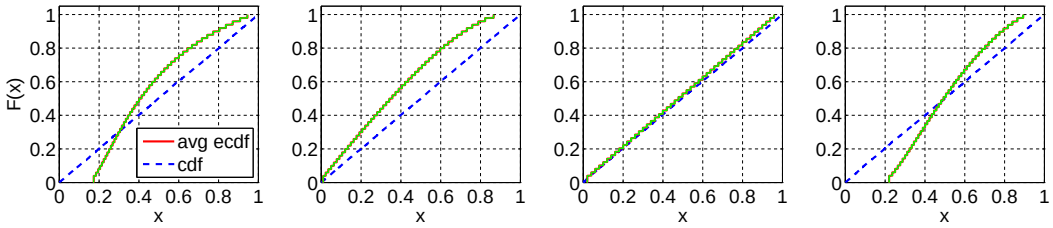


Fig. 134. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $LN(1,0.25)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

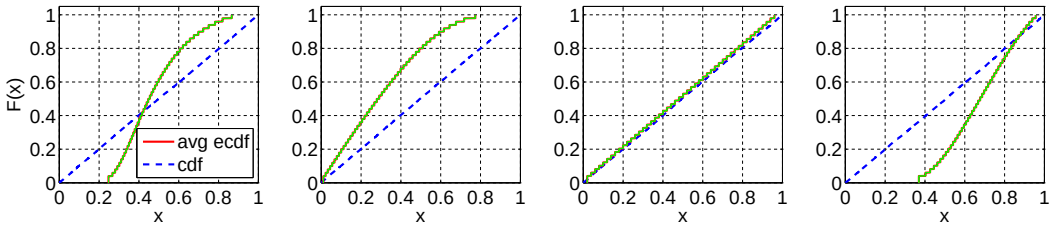


Fig. 135. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $LN(1,1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

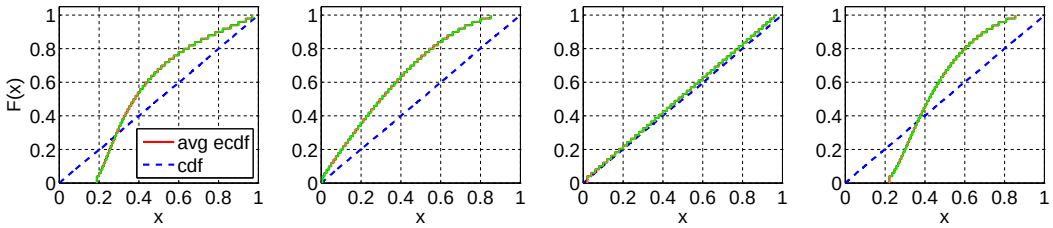


Fig. 136. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $LN(1,4)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

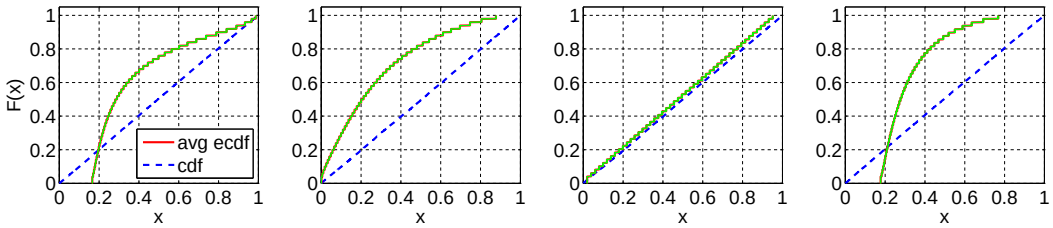


Fig. 137. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $LN(1,10)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

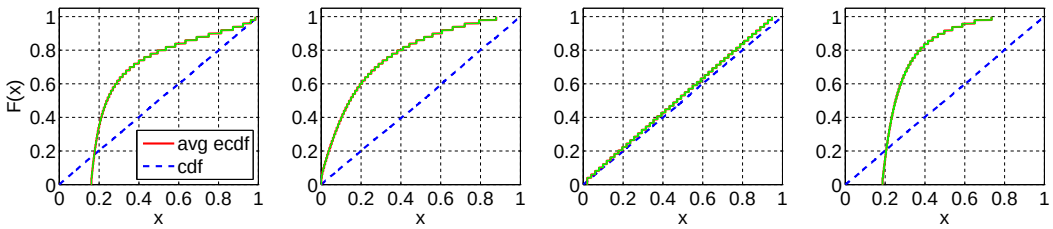


Fig. 138. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); RRI ($p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

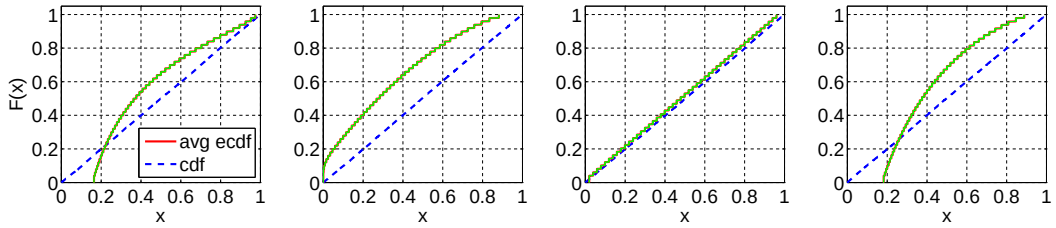


Fig. 139. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); RRI ($p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

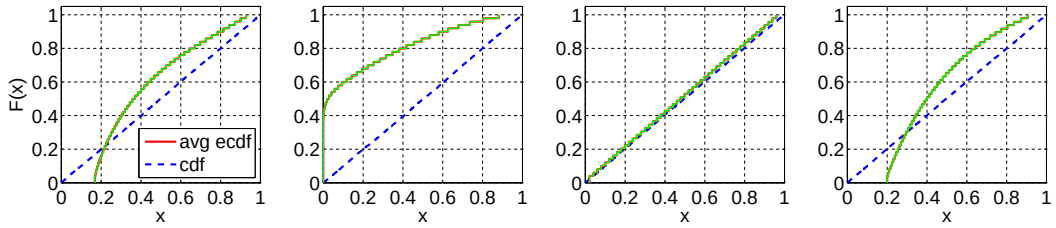


Fig. 140. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); RRI ($p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).

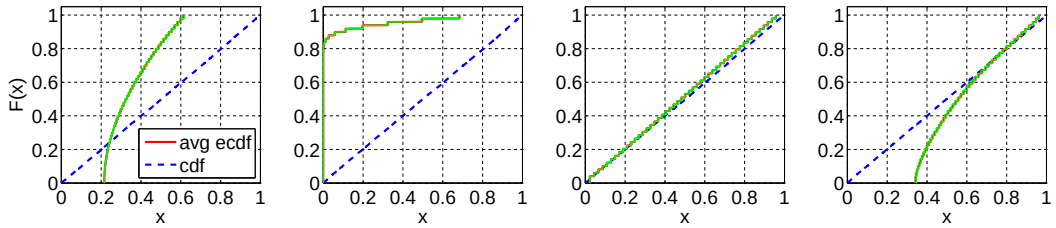


Fig. 141. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $EARMA$ (0.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

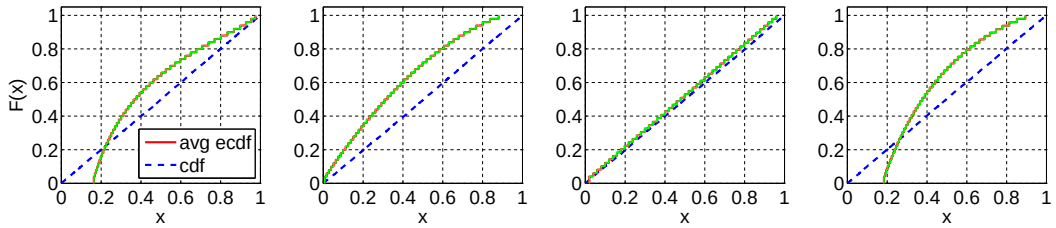


Fig. 142. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $EARMA$ (0.5): F(X), Durbin, CU, and Lewis Tests(from left to right).

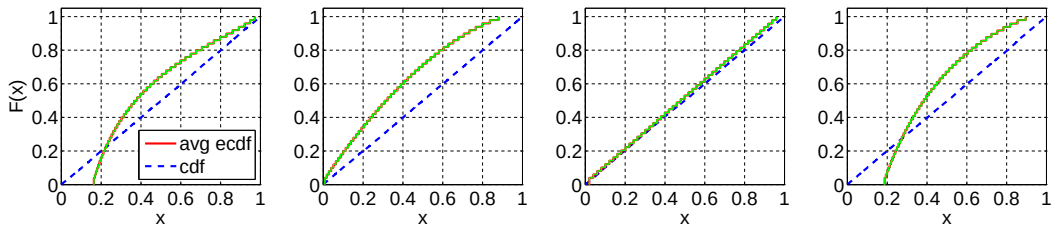


Fig. 143. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $EARMA$ (1): F(X), Durbin, CU, and Lewis Tests(from left to right).

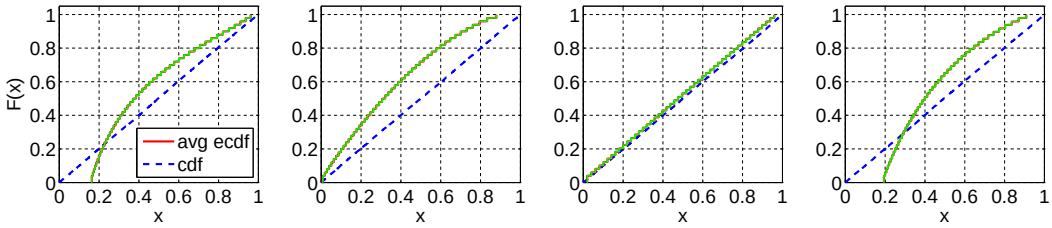


Fig. 144. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $EARMA$ (3): F(X), Durbin, CU, and Lewis Tests(from left to right).

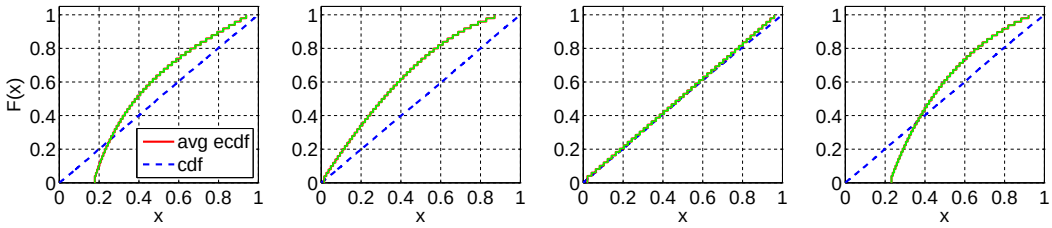


Fig. 145. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $EARMA$ (5.25): F(X), Durbin, CU, and Lewis Tests(from left to right).

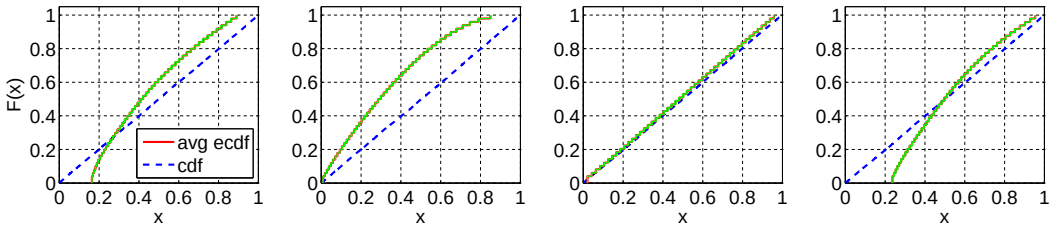


Fig. 146. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $2 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

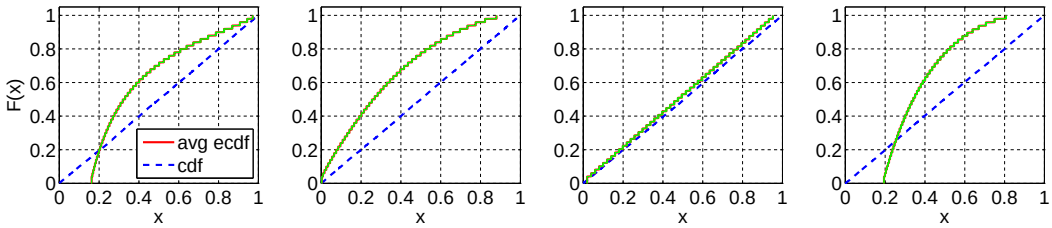


Fig. 147. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $5 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

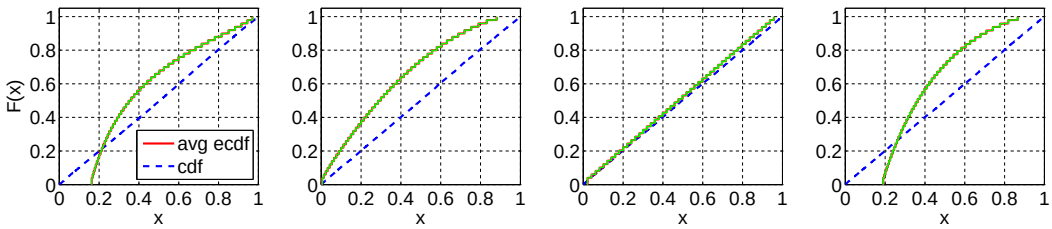


Fig. 148. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $10 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

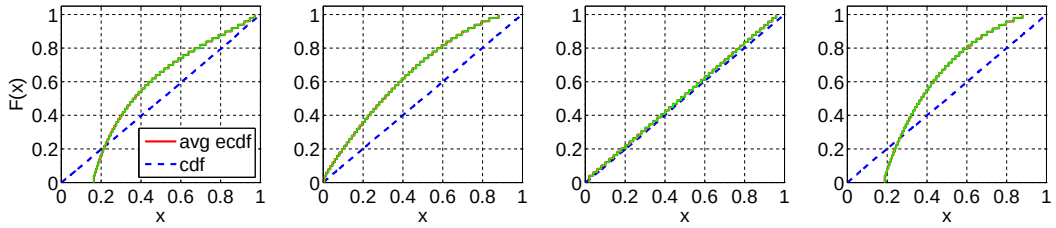


Fig. 149. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $20 - H_2$: F(X), Durbin, CU, and Lewis Tests(from left to right).

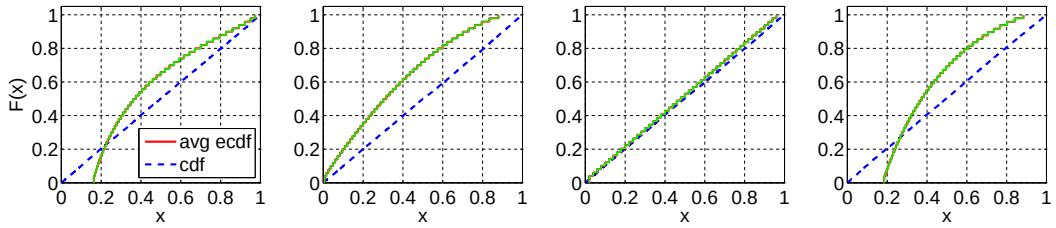


Fig. 150. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); RRI (H_2, $p = 0.1$): F(X), Durbin, CU, and Lewis Tests(from left to right).

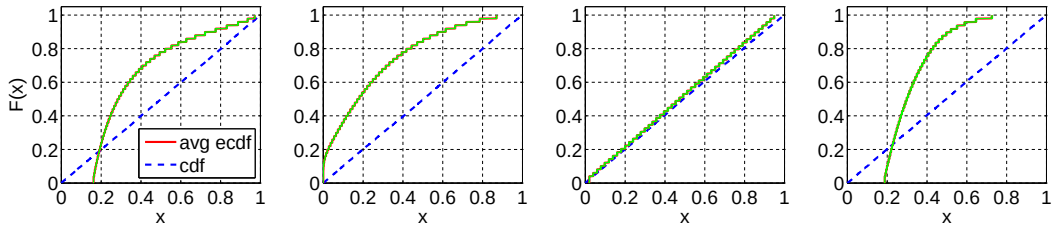


Fig. 151. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); RRI (H_2, $p = 0.5$): F(X), Durbin, CU, and Lewis Tests(from left to right).

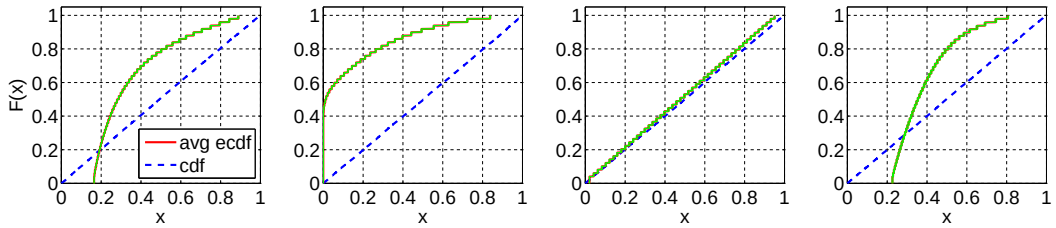


Fig. 152. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); RRI (H_2, $p = 0.9$): F(X), Durbin, CU, and Lewis Tests(from left to right).

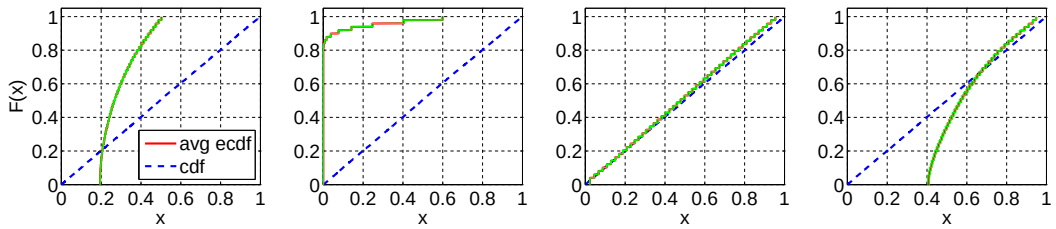


Fig. 153. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $N(0,1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

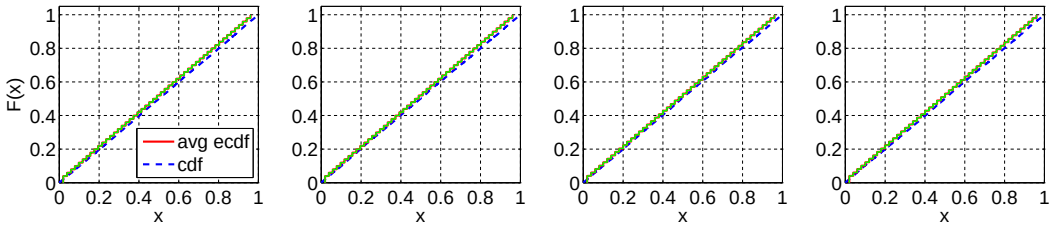


Fig. 154. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $E_2 - 1 + \sqrt{1 - 1/2}N(0,1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

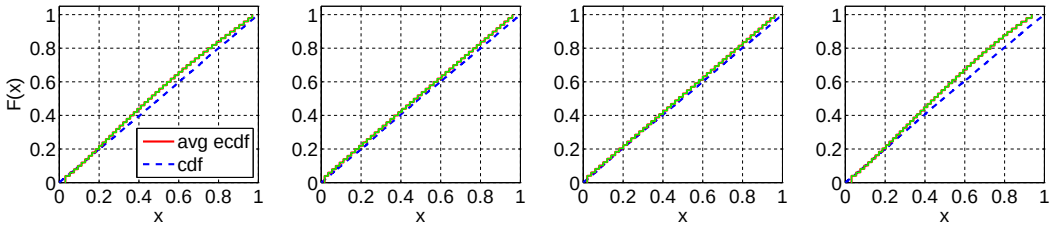


Fig. 155. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $E_4 - 1 + \sqrt{1 - 1/4}N(0,1)$: F(X), Durbin, CU, and Lewis Tests(from left to right).

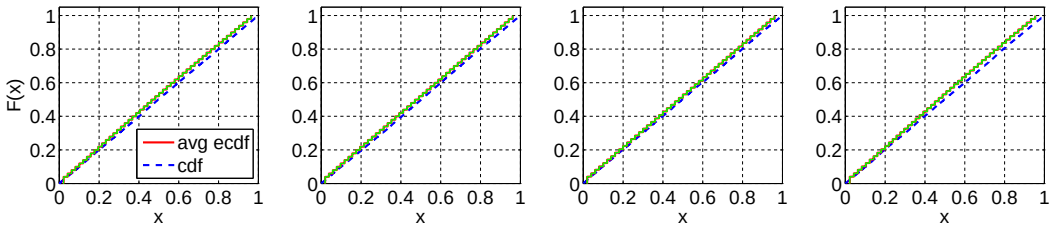


Fig. 156. Comparison of the average ecdf based on 10^4 replications for $n = 50$ with the cdf of the null hypothesis ($N(0,1)$); $E_6 - 1 + \sqrt{1 - 1/6}N(0,1)$): F(X), Durbin, CU, and Lewis Tests(from left to right).

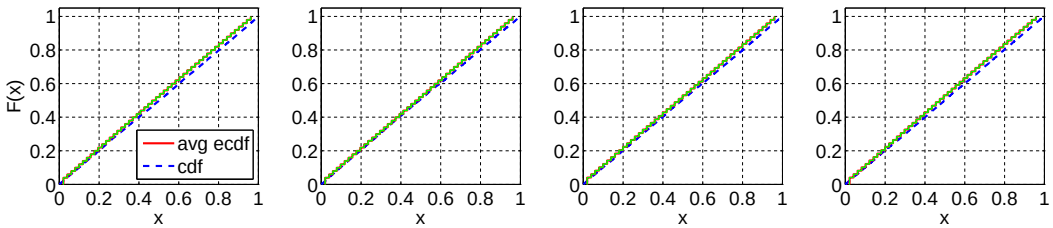


Table LXXII. The power of alternative KS tests of the null hypothesis that data are i.i.d. $N(0,1)$ variables for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals. The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.

		Standard		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5524	0.16 ± 0.0039	0	0.00 ± 0.0000
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9262	0.48 ± 0.0059	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9990	0.82 ± 0.0041	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.93 ± 0.0024	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3240	0.08 ± 0.0028	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1850	0.04 ± 0.0019	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	702	0.01 ± 0.0010	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	33	0.00 ± 0.0003	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	27	0.00 ± 0.0004	0	0.00 ± 0.0000
Z	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4471	0.18 ± 0.0053	0	0.00 ± 0.0000
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9926	0.76 ± 0.0050	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3684	0.10 ± 0.0035	0	0.00 ± 0.0000
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	248	0.00 ± 0.0006	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	48	0.00 ± 0.0002	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4784	0.13 ± 0.0035	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2118	0.05 ± 0.0021	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	416	0.01 ± 0.0009	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4026	0.10 ± 0.0032	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2997	0.07 ± 0.0026	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2143	0.05 ± 0.0022	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	0	0.00 ± 0.0000	625	0.01 ± 0.0009	0	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	632	0.01 ± 0.0011	5	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	315	0.01 ± 0.0008	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1395	0.03 ± 0.0018	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2470	0.06 ± 0.0026	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3603	0.10 ± 0.0033	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	42	0.00 ± 0.0002	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	93	0.00 ± 0.0005	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	472	0.01 ± 0.0012	0	0.00 ± 0.0000
$N(0,1)$	$-$	9491	0.51 ± 0.0056	9476	0.50 ± 0.0057	9522	0.50 ± 0.0056	9498	0.50 ± 0.0057
$E_k - 1$	$k = 2$	8702	0.39 ± 0.0056	9366	0.48 ± 0.0057	8631	0.37 ± 0.0055	6247	0.21 ± 0.0049
$+\sqrt{1 - 1/k}$	$k = 4$	9474	0.49 ± 0.0057	9480	0.50 ± 0.0056	9370	0.47 ± 0.0056	9233	0.46 ± 0.0057
$\times N(0,1)$	$k = 6$	9514	0.50 ± 0.0056	9515	0.50 ± 0.0057	9416	0.49 ± 0.0057	9436	0.49 ± 0.0057

E.3. Tests for $N(0,1)$ with $n = 200$

Table LXXIII. Tests for $N(0,1)$ using $F(X)$ ($n = 200$): Average and c^2 of untransformed (X) and transformed interarrival times with associated 95% confidence intervals. All results are based on 10000 replications.

		X		Standard		Sort-Log		Durbin	
$Case$	$Subcase$	Avg	Var	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.00	1.00	0.46	0.32	1.05	7.11	0.35	0.47
E_k	$k = 2$	0.00	0.50	0.48	0.21	0.86	9.89	0.38	0.39
	$k = 4$	0.00	0.25	0.49	0.12	0.78	16.80	0.34	0.41
	$k = 6$	0.00	0.17	0.50	0.09	0.75	23.36	0.29	0.43
H_2	$c^2 = 1.25$	0.00	1.25	0.45	0.34	1.12	7.19	0.34	0.51
	$c^2 = 1.5$	0.00	1.50	0.44	0.35	1.18	7.46	0.32	0.55
	$c^2 = 2$	0.00	2.00	0.43	0.37	1.23	8.17	0.30	0.60
	$c^2 = 4$	0.00	3.99	0.39	0.40	1.14	11.86	0.26	0.71
	$c^2 = 10$	0.00	10.03	0.35	0.37	0.72	19.83	0.24	0.76
Z	–	0.00	0.99	0.47	0.23	0.90	9.37	0.37	0.40
LN	$(1, 0.25)$	0.00	0.25	0.49	0.12	0.78	22.31	0.31	0.43
	$(1, 1)$	0.00	1.00	0.46	0.25	1.00	9.82	0.34	0.47
	$(1, 4)$	0.00	4.05	0.40	0.41	1.15	9.46	0.27	0.71
	$(1, 10)$	0.00	9.17	0.37	0.50	1.09	11.48	0.22	0.99
RRI	$p = 0.1$	0.00	1.00	0.46	0.32	1.05	7.44	0.32	0.63
	$p = 0.5$	0.00	1.00	0.46	0.32	1.05	10.04	0.18	1.97
	$p = 0.9$	0.00	0.91	0.46	0.29	1.05	28.63	0.04	14.24
$EARMA$	0.25	0.00	1.00	0.46	0.32	1.05	7.15	0.35	0.47
	0.5	0.00	1.00	0.46	0.32	1.05	7.26	0.35	0.47
	1	0.00	0.99	0.46	0.31	1.04	7.45	0.35	0.47
	3	0.00	0.97	0.46	0.31	1.05	8.14	0.35	0.48
	5.25	0.00	0.95	0.46	0.30	1.04	8.93	0.35	0.48
mH_2	$m = 2$	0.00	2.51	0.43	0.36	1.05	9.51	0.31	0.58
	$m = 5$	0.00	1.38	0.45	0.33	1.08	7.93	0.34	0.51
	$m = 10$	0.00	1.14	0.46	0.32	1.07	7.60	0.35	0.49
	$m = 20$	0.00	1.05	0.46	0.32	1.06	7.49	0.35	0.48
$RRI(H_2)$	$p = 0.1$	0.00	4.02	0.39	0.40	1.12	12.80	0.24	0.91
	$p = 0.5$	0.00	3.93	0.39	0.39	1.12	19.26	0.14	2.48
	$p = 0.9$	0.00	3.64	0.39	0.35	1.13	47.90	0.03	16.68
$N(0,1)$	–	0.00	1.00	0.50	0.33	1.00	1.00	0.50	0.34
$E_k - 1 + \sqrt{1 - 1/k}N(0,1)$	$k = 2$	0.00	1.00	0.49	0.34	1.02	1.08	0.49	0.34
	$k = 4$	0.00	1.00	0.50	0.34	1.00	1.00	0.50	0.34
	$k = 6$	0.00	1.00	0.50	0.34	1.00	0.99	0.50	0.34

Table LXXIV. Tests for $N(0,1)$ using $(F(X))$ $(n = 200)$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		X		F(X)		Log		Durbin (2-sided)		Durbin (1-sided)	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	0	0.00 ± 0.0000	0	0.00 ± 0.0000	419	0.01 ± 0.0009	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	74	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	179	0.00 ± 0.0004	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	71	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	6	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	–	0	0.00 ± 0.0000	0	0.00 ± 0.0000	75	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	29	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	25	0.00 ± 0.0001	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	647	0.02 ± 0.0012	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	846	0.02 ± 0.0014	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1091	0.02 ± 0.0016	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1719	0.05 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1485	0.04 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	33	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	538	0.01 ± 0.0008	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	917	0.02 ± 0.0013	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1042	0.02 ± 0.0015	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000	0	0.00 ± 0.0000
$N(0,1)$	–	9491	0.51 ± 0.0056	9491	0.51 ± 0.0056	9524	0.50 ± 0.0056	9476	0.50 ± 0.0057	9469	0.50 ± 0.0057
$E_k - 1 + \sqrt{1 - 1/k}N(0,1)$	$k = 2$	8702	0.39 ± 0.0056	8702	0.39 ± 0.0056	9292	0.47 ± 0.0058	9366	0.48 ± 0.0057	9119	0.42 ± 0.0056
	$k = 4$	9474	0.49 ± 0.0057	9474	0.49 ± 0.0057	9493	0.49 ± 0.0056	9480	0.50 ± 0.0056	9451	0.49 ± 0.0057
	$k = 6$	9514	0.50 ± 0.0056	9514	0.50 ± 0.0056	9436	0.50 ± 0.0057	9515	0.50 ± 0.0057	9497	0.50 ± 0.0056

Table LXXV. Tests for $N(0,1)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Average and c^2 of untransformed (X) and transformed interarrival times with associated 95% confidence intervals. All results are based on 10000 replications.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2	Avg	c^2
Exp	–	0.50	0.33	0.99	0.39	0.65	0.26	0.50	0.34	1.01	2.57	0.42	0.25
E_k	$k = 2$	0.50	0.33	0.99	0.32	0.68	0.18	0.50	0.33	1.00	1.06	0.56	0.13
	$k = 4$	0.50	0.33	0.99	0.22	0.73	0.11	0.50	0.33	0.99	0.43	0.68	0.07
	$k = 6$	0.50	0.33	0.99	0.17	0.77	0.07	0.50	0.33	0.99	0.27	0.74	0.05
H_2	$c^2 = 1.25$	0.50	0.33	0.99	0.38	0.66	0.25	0.50	0.34	1.02	3.57	0.38	0.27
	$c^2 = 1.5$	0.50	0.33	0.99	0.37	0.66	0.25	0.50	0.35	1.02	4.35	0.36	0.29
	$c^2 = 2$	0.50	0.33	0.99	0.36	0.68	0.23	0.50	0.35	1.04	5.44	0.33	0.31
	$c^2 = 4$	0.50	0.33	0.99	0.29	0.72	0.19	0.50	0.35	1.06	7.76	0.30	0.26
	$c^2 = 10$	0.50	0.33	0.99	0.20	0.76	0.14	0.50	0.35	1.07	7.48	0.42	0.11
Z	–	0.50	0.33	0.99	0.32	0.68	0.19	0.50	0.34	1.01	2.27	0.51	0.15
LN	$(1, 0.25)$	0.50	0.33	0.99	0.19	0.75	0.10	0.50	0.33	0.99	0.54	0.68	0.06
	$(1, 1)$	0.50	0.33	0.99	0.31	0.69	0.20	0.50	0.34	1.02	3.19	0.45	0.16
	$(1, 4)$	0.50	0.33	0.99	0.31	0.70	0.22	0.50	0.35	1.04	6.00	0.32	0.29
	$(1, 10)$	0.50	0.33	0.99	0.28	0.73	0.20	0.49	0.36	1.06	7.32	0.29	0.31
RRI	$p = 0.1$	0.50	0.33	0.99	0.39	0.65	0.26	0.50	0.34	1.02	2.52	0.43	0.25
	$p = 0.5$	0.50	0.34	1.00	0.43	0.65	0.26	0.50	0.35	1.03	2.31	0.44	0.26
	$p = 0.9$	0.50	0.35	1.05	0.66	0.67	0.25	0.50	0.40	1.09	1.52	0.50	0.27
$EARMA$	0.25	0.50	0.33	1.00	0.39	0.65	0.26	0.50	0.35	1.02	2.50	0.43	0.25
	0.5	0.50	0.33	1.00	0.39	0.65	0.26	0.50	0.35	1.02	2.44	0.43	0.25
	1	0.50	0.33	1.00	0.40	0.65	0.26	0.50	0.35	1.03	2.23	0.43	0.25
	3	0.50	0.34	1.02	0.45	0.65	0.26	0.50	0.37	1.06	1.94	0.44	0.24
	5.25	0.50	0.34	1.01	0.46	0.65	0.26	0.50	0.38	1.07	1.50	0.46	0.24
mH_2	$m = 2$	0.50	0.33	0.99	0.34	0.68	0.23	0.50	0.36	1.04	5.00	0.37	0.24
	$m = 5$	0.50	0.33	1.00	0.38	0.66	0.25	0.50	0.36	1.03	3.35	0.40	0.25
	$m = 10$	0.50	0.33	1.00	0.39	0.65	0.26	0.50	0.35	1.02	2.86	0.41	0.25
	$m = 20$	0.50	0.33	0.99	0.39	0.65	0.26	0.50	0.35	1.02	2.63	0.42	0.25
$RRI(H_2)$	$p = 0.1$	0.50	0.33	0.99	0.29	0.72	0.19	0.50	0.36	1.07	7.44	0.31	0.26
	$p = 0.5$	0.50	0.33	1.00	0.37	0.72	0.19	0.50	0.40	1.10	6.49	0.33	0.29
	$p = 0.9$	0.50	0.35	1.04	0.96	0.73	0.19	0.50	0.47	1.17	3.22	0.46	0.40
$N(0,1)$	–	0.50	0.33	1.00	1.00	0.50	0.34	0.50	0.34	1.00	0.99	0.50	0.34
$E_k - 1 + \sqrt{1-1/k}N(0,1)$	$k = 2$	0.50	0.34	1.00	0.80	0.53	0.31	0.50	0.34	1.00	1.35	0.47	0.32
	$k = 4$	0.50	0.33	1.00	0.94	0.51	0.33	0.50	0.34	1.00	1.07	0.49	0.33
	$k = 6$	0.50	0.33	1.00	0.97	0.50	0.33	0.50	0.34	1.00	1.03	0.50	0.33

Table LXXVI. Tests for $N(0,1)$ using $-log(F(X))$ or $-log(1-F(X))$ ($n = 200$): Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Based on $-log(F(X))$						Based on $-log(1-F(X))$					
		CU		CU+Log		Lewis		CU		CU+Log		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	–	9998	0.86 ± 0.0035	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5524	0.16 ± 0.0039	0	0.00 ± 0.0000	0	0.00 ± 0.0000
E_k	$k = 2$	10000	0.90 ± 0.0029	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9262	0.48 ± 0.0059	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 4$	10000	0.96 ± 0.0017	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9990	0.82 ± 0.0041	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$k = 6$	10000	0.98 ± 0.0010	0	0.00 ± 0.0000	0	0.00 ± 0.0000	10000	0.93 ± 0.0024	0	0.00 ± 0.0000	0	0.00 ± 0.0000
H_2	$c^2 = 1.25$	9997	0.87 ± 0.0034	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3240	0.08 ± 0.0028	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 1.5$	9999	0.88 ± 0.0032	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1850	0.04 ± 0.0019	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 2$	10000	0.90 ± 0.0029	0	0.00 ± 0.0000	0	0.00 ± 0.0000	702	0.01 ± 0.0010	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 4$	10000	0.94 ± 0.0022	0	0.00 ± 0.0000	0	0.00 ± 0.0000	33	0.00 ± 0.0003	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$c^2 = 10$	10000	0.97 ± 0.0014	0	0.00 ± 0.0000	0	0.00 ± 0.0000	27	0.00 ± 0.0004	0	0.00 ± 0.0000	0	0.00 ± 0.0000
Z	–	10000	0.90 ± 0.0029	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4471	0.18 ± 0.0053	0	0.00 ± 0.0000	0	0.00 ± 0.0000
LN	$(1, 0.25)$	10000	0.97 ± 0.0013	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9926	0.76 ± 0.0050	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 1)$	10000	0.92 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3684	0.10 ± 0.0035	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 4)$	10000	0.92 ± 0.0025	0	0.00 ± 0.0000	0	0.00 ± 0.0000	248	0.00 ± 0.0006	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$(1, 10)$	9999	0.95 ± 0.0020	0	0.00 ± 0.0000	0	0.00 ± 0.0000	48	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
RRI	$p = 0.1$	9992	0.81 ± 0.0042	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4784	0.13 ± 0.0035	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	9294	0.48 ± 0.0059	11	0.00 ± 0.0001	0	0.00 ± 0.0000	2118	0.05 ± 0.0021	2	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	2969	0.08 ± 0.0033	7	0.00 ± 0.0001	0	0.00 ± 0.0000	416	0.01 ± 0.0009	2	0.00 ± 0.0000	0	0.00 ± 0.0000
$EARMA$	0.25	9988	0.80 ± 0.0043	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4026	0.10 ± 0.0032	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	0.5	9937	0.72 ± 0.0051	4	0.00 ± 0.0001	0	0.00 ± 0.0000	2997	0.07 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	1	9813	0.63 ± 0.0056	4	0.00 ± 0.0001	0	0.00 ± 0.0000	2143	0.05 ± 0.0022	4	0.00 ± 0.0000	0	0.00 ± 0.0000
	3	5794	0.18 ± 0.0043	231	0.00 ± 0.0004	0	0.00 ± 0.0000	625	0.01 ± 0.0009	54	0.00 ± 0.0002	0	0.00 ± 0.0000
	5.25	6115	0.21 ± 0.0050	293	0.01 ± 0.0005	3	0.00 ± 0.0000	632	0.01 ± 0.0011	144	0.00 ± 0.0003	5	0.00 ± 0.0000
mH_2	$m = 2$	9988	0.78 ± 0.0046	0	0.00 ± 0.0000	0	0.00 ± 0.0000	315	0.01 ± 0.0008	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 5$	9820	0.67 ± 0.0056	2	0.00 ± 0.0000	0	0.00 ± 0.0000	1395	0.03 ± 0.0018	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 10$	9844	0.69 ± 0.0056	1	0.00 ± 0.0000	0	0.00 ± 0.0000	2470	0.06 ± 0.0026	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$m = 20$	9932	0.75 ± 0.0051	6	0.00 ± 0.0001	0	0.00 ± 0.0000	3603	0.10 ± 0.0033	2	0.00 ± 0.0000	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	10000	0.91 ± 0.0028	0	0.00 ± 0.0000	0	0.00 ± 0.0000	42	0.00 ± 0.0002	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.5$	9838	0.65 ± 0.0056	0	0.00 ± 0.0000	0	0.00 ± 0.0000	93	0.00 ± 0.0005	0	0.00 ± 0.0000	0	0.00 ± 0.0000
	$p = 0.9$	4915	0.18 ± 0.0051	0	0.00 ± 0.0000	0	0.00 ± 0.0000	472	0.01 ± 0.0012	1	0.00 ± 0.0000	0	0.00 ± 0.0000
$N(0,1)$	–	9491	0.50 ± 0.0057	9524	0.50 ± 0.0056	9515	0.50 ± 0.0057	9522	0.50 ± 0.0056	9505	0.50 ± 0.0057	9498	0.50 ± 0.0057
$E_k - 1 + cN(0,1)$ $(c = \sqrt{1 - 1/k})$	$k = 2$	9773	0.59 ± 0.0056	8606	0.36 ± 0.0055	6771	0.23 ± 0.0049	8631	0.37 ± 0.0055	8198	0.35 ± 0.0057	6247	0.21 ± 0.0049
	$k = 4$	9572	0.53 ± 0.0057	9453	0.49 ± 0.0057	9425	0.48 ± 0.0057	9370	0.47 ± 0.0056	9386	0.48 ± 0.0057	9233	0.46 ± 0.0057
	$k = 6$	9514	0.51 ± 0.0057	9468	0.50 ± 0.0057	9501	0.50 ± 0.0056	9416	0.49 ± 0.0057	9498	0.50 ± 0.0056	9436	0.49 ± 0.0057

Table LXXVII. Maximum Likelihood estimates of lognormal distribution parameters for the sample size $n = 200$. Their average values and 95% confidence levels based on $10,000$ replications are shown.

Case	*Subcase*	$E[\hat{\mu}]$	$E[\hat{\sigma}]$	$E[\hat{v}]$	$E[\hat{c^2}]$
Exp	–	-0.578 ± 0.002	1.277 ± 0.002	1.281 ± 0.003	4.312 ± 0.028
E_k	$k = 2$	-0.271 ± 0.001	0.800 ± 0.001	1.053 ± 0.001	0.908 ± 0.003
	$k = 4$	-0.130 ± 0.001	0.531 ± 0.001	1.012 ± 0.001	0.327 ± 0.001
	$k = 6$	-0.085 ± 0.001	0.424 ± 0.000	1.005 ± 0.001	0.198 ± 0.000
H_2	$c^2 = 1.25$	-0.633 ± 0.002	1.317 ± 0.002	1.277 ± 0.003	4.906 ± 0.031
	$c^2 = 1.5$	-0.682 ± 0.002	1.345 ± 0.002	1.264 ± 0.003	5.371 ± 0.034
	$c^2 = 2$	-0.755 ± 0.002	1.384 ± 0.002	1.241 ± 0.003	6.113 ± 0.040
	$c^2 = 4$	-0.917 ± 0.002	1.432 ± 0.002	1.132 ± 0.003	7.180 ± 0.049
	$c^2 = 10$	-1.078 ± 0.002	1.425 ± 0.002	0.957 ± 0.003	7.053 ± 0.051
Z	–	-0.363 ± 0.001	0.944 ± 0.002	1.093 ± 0.002	1.481 ± 0.008
LN	$(1, 0.25)$	-0.112 ± 0.001	0.471 ± 0.000	1.000 ± 0.001	0.249 ± 0.001
	$(1, 1)$	-0.347 ± 0.001	0.829 ± 0.001	1.000 ± 0.001	0.997 ± 0.003
	$(1, 4)$	-0.805 ± 0.002	1.264 ± 0.001	1.004 ± 0.002	4.030 ± 0.016
	$(1, 10)$	-1.200 ± 0.002	1.543 ± 0.002	1.008 ± 0.003	10.214 ± 0.055
RRI	$p = 0.1$	-0.577 ± 0.002	1.274 ± 0.002	1.281 ± 0.003	4.333 ± 0.033
	$p = 0.5$	-0.577 ± 0.003	1.266 ± 0.003	1.288 ± 0.005	4.652 ± 0.079
	$p = 0.9$	-0.577 ± 0.008	1.181 ± 0.006	1.427 ± 0.186	$2.9 \times 10^4 \pm 5.6 \times 10^4$
$EARMA$	0.25	-0.576 ± 0.002	1.276 ± 0.002	1.283 ± 0.003	4.295 ± 0.027
	0.5	-0.577 ± 0.002	1.275 ± 0.002	1.282 ± 0.003	4.289 ± 0.028
	1	-0.576 ± 0.002	1.274 ± 0.002	1.286 ± 0.004	4.287 ± 0.029
	3	-0.575 ± 0.006	1.225 ± 0.005	1.278 ± 0.011	14.841 ± 7.948
	5.25	-0.573 ± 0.004	1.257 ± 0.002	1.301 ± 0.007	4.157 ± 0.034
mH_2	$m = 2$	-0.747 ± 0.002	1.364 ± 0.002	1.221 ± 0.004	5.733 ± 0.038
	$m = 5$	-0.642 ± 0.003	1.316 ± 0.002	1.272 ± 0.004	4.890 ± 0.032
	$m = 10$	-0.606 ± 0.003	1.293 ± 0.002	1.278 ± 0.004	4.529 ± 0.028
	$m = 20$	-0.593 ± 0.003	1.283 ± 0.002	1.277 ± 0.004	4.386 ± 0.028
$RRI(H_2)$	$p = 0.1$	-0.917 ± 0.002	1.432 ± 0.002	1.137 ± 0.004	7.283 ± 0.060
	$p = 0.5$	-0.920 ± 0.003	1.420 ± 0.003	1.145 ± 0.007	8.167 ± 0.502
	$p = 0.9$	-0.919 ± 0.009	1.328 ± 0.007	8.420 ± 13.811	$8.0 \times 10^8 \pm 1.6 \times 10^9$

F. ESTIMATING PARAMETERS

F.1. Tests for Lognormal Distribution

If X is a lognormal random variable with mean $v = E[X]$, then $Y = log(X)$ is normally distributed with mean μ and σ^2, and we have the relation $v = exp(\mu + \sigma^2/2)$ and $c_X^2 = e^{\sigma^2} - 1$. For lognormal distribution, the Maximum Likelihood (ML) estimators of its parameters are defined as $\hat{\mu} = \sum_{i=1}^n Y_i/n$, $\hat{\sigma^2} = \sum_{i=1}^n (Y_i - \hat{\mu})^2/n$. Then it follows that $\hat{v} = exp(\hat{\mu} + \hat{\sigma^2}/2)$ and $\hat{c_X^2} = e^{\sigma^2} - 1$.

We first consider cases with the sample size $n = 200$. Table LXXVII provides the ML estimates of lognormal distribution parameters and Table LXXVIII shows the KS test results. Even with estimated parameters, the tests still have enough power to tell whether there are deviations from the lognormal distribution. However, the standard and Lewis test results show that they fail to reject too little than desired (and hence lost some of the power), as the test results for lognormal cases illustrate. We correct for this by adjusting the nominal significance level. We have found that nominal significance level of 0.36 and 0.18 work for the standard and Lewis test, respectively, as Tables LXXIX and LXXX show. As expected, we gain power as we increase the sample size from $n = 200$ to 2000, as illustrated by the test results in Tables LXXXI - LXXXIV.

Table LXXVIII. Performance of alternative KS tests of i.i.d. lognormal variables with estimated mean and variance for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 (nominal significance levels are not adjusted) out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Standard		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	5594	0.10 ± 0.0024	7238	0.28 ± 0.0054	9950	0.72 ± 0.0049	270	0.01 ± 0.0005
E_k	$k = 2$	8933	0.28 ± 0.0042	9001	0.43 ± 0.0058	9896	0.66 ± 0.0053	2781	0.06 ± 0.0021
	$k = 4$	9792	0.46 ± 0.0050	9381	0.48 ± 0.0057	9833	0.61 ± 0.0055	6494	0.19 ± 0.0043
	$k = 6$	9900	0.55 ± 0.0051	9427	0.49 ± 0.0057	9781	0.59 ± 0.0055	7975	0.29 ± 0.0051
H_2	$c^2 = 1.25$	6903	0.15 ± 0.0031	8152	0.35 ± 0.0058	9931	0.69 ± 0.0052	796	0.02 ± 0.0010
	$c^2 = 1.5$	7917	0.21 ± 0.0038	8689	0.40 ± 0.0058	9915	0.67 ± 0.0053	1755	0.04 ± 0.0017
	$c^2 = 2$	8558	0.27 ± 0.0045	9121	0.45 ± 0.0058	9877	0.63 ± 0.0054	3254	0.08 ± 0.0029
	$c^2 = 4$	9028	0.31 ± 0.0046	9036	0.44 ± 0.0059	9695	0.56 ± 0.0056	5090	0.14 ± 0.0037
	$c^2 = 10$	8288	0.21 ± 0.0035	7609	0.30 ± 0.0056	9496	0.50 ± 0.0057	3903	0.07 ± 0.0021
Z	$-$	6850	0.16 ± 0.0034	8049	0.34 ± 0.0058	9888	0.65 ± 0.0053	1301	0.03 ± 0.0016
LN	$(1, 0.25)$	9999	0.78 ± 0.0038	9496	0.50 ± 0.0056	9493	0.50 ± 0.0057	9922	0.63 ± 0.0051
	$(1, 1)$	9998	0.78 ± 0.0039	9525	0.50 ± 0.0056	9505	0.50 ± 0.0056	9916	0.63 ± 0.0051
	$(1, 4)$	9998	0.78 ± 0.0038	9519	0.50 ± 0.0056	9516	0.49 ± 0.0057	9923	0.63 ± 0.0051
	$(1, 10)$	9997	0.78 ± 0.0038	9479	0.50 ± 0.0057	9505	0.49 ± 0.0057	9913	0.63 ± 0.0051
RRI	$p = 0.1$	5059	0.10 ± 0.0023	638	0.01 ± 0.0006	9872	0.64 ± 0.0054	293	0.01 ± 0.0005
	$p = 0.5$	2773	0.05 ± 0.0019	0	0.00 ± 0.0000	7823	0.29 ± 0.0051	401	0.01 ± 0.0008
	$p = 0.9$	51	0.00 ± 0.0002	0	0.00 ± 0.0000	830	0.02 ± 0.0010	9	0.00 ± 0.0001
$EARMA$	0.25	5641	0.11 ± 0.0024	7313	0.28 ± 0.0054	9795	0.60 ± 0.0056	251	0.01 ± 0.0004
	0.5	5530	0.10 ± 0.0023	7214	0.27 ± 0.0054	9440	0.49 ± 0.0057	251	0.01 ± 0.0005
	1	5293	0.10 ± 0.0024	7033	0.26 ± 0.0054	8721	0.38 ± 0.0056	281	0.01 ± 0.0005
	3	7054	0.25 ± 0.0052	5846	0.20 ± 0.0048	2862	0.06 ± 0.0021	2511	0.07 ± 0.0032
	5.25	4214	0.10 ± 0.0031	5716	0.21 ± 0.0052	3318	0.08 ± 0.0030	617	0.01 ± 0.0012
mH_2	$m = 2$	8121	0.22 ± 0.0040	8888	0.42 ± 0.0058	9008	0.42 ± 0.0057	2382	0.05 ± 0.0022
	$m = 5$	6831	0.15 ± 0.0031	8145	0.35 ± 0.0057	8604	0.39 ± 0.0059	852	0.02 ± 0.0010
	$m = 10$	6196	0.13 ± 0.0027	7728	0.31 ± 0.0056	8917	0.45 ± 0.0061	478	0.01 ± 0.0007
	$m = 20$	5936	0.11 ± 0.0024	7517	0.30 ± 0.0056	9448	0.54 ± 0.0061	311	0.01 ± 0.0005
$RRI(H_2)$	$p = 0.1$	8563	0.28 ± 0.0046	1173	0.02 ± 0.0010	9437	0.48 ± 0.0057	4744	0.13 ± 0.0036
	$p = 0.5$	5569	0.14 ± 0.0033	0	0.00 ± 0.0000	6128	0.19 ± 0.0042	2935	0.07 ± 0.0025
	$p = 0.9$	91	0.00 ± 0.0002	0	0.00 ± 0.0000	463	0.01 ± 0.0007	31	0.00 ± 0.0001

Table LXXIX. Performance of the Standard test with estimated mean and variance assuming lognormal distribution for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels.

		significance level									
$Case$	$Subcase$	0.05	0.1	0.2	0.3	0.35	0.36	0.37	0.38	0.39	0.4
Exp	$-$	5594	3559	1560	768	535	495	468	432	398	366
E_k	$k = 2$	8933	7620	5457	3748	3054	2930	2817	2712	2619	2528
	$k = 4$	9792	9347	8155	6782	6177	6047	5907	5782	5639	5486
	$k = 6$	9900	9673	8888	7864	7340	7231	7142	7027	6938	6813
H_2	$c^2 = 1.25$	6903	4956	2711	1501	1128	1054	981	926	881	836
	$c^2 = 1.5$	7917	6150	3869	2456	1971	1868	1794	1716	1630	1556
	$c^2 = 2$	8558	7116	5055	3556	2934	2839	2710	2616	2508	2414
	$c^2 = 4$	9028	7919	5991	4378	3727	3584	3472	3358	3250	3147
	$c^2 = 10$	8288	6610	4059	2437	1892	1792	1695	1607	1514	1436
Z	$-$	6850	5055	2927	1752	1367	1309	1230	1182	1114	1057
LN	$(1, 0.25)$	9999	9990	9924	9750	9614	9572	9527	9497	9467	9422
	$(1, 1)$	9998	9983	9908	9734	9598	9561	9529	9501	9458	9425
	$(1, 4)$	9998	9992	9932	9762	9619	9591	9561	9535	9508	9470
	$(1, 10)$	9997	9986	9916	9754	9602	9565	9530	9499	9458	9423
RRI	$p = 0.1$	5059	3177	1411	694	486	445	424	396	367	349
	$p = 0.5$	2773	1672	774	380	266	253	238	223	207	190
	$p = 0.9$	51	15	1	0	0	0	0	0	0	0
$EARMA$	0.25	5641	3543	1598	760	532	490	462	435	413	386
	0.5	5530	3462	1508	685	482	451	412	384	365	332
	1	5293	3366	1525	737	531	498	463	432	401	373
	3	7054	5830	4280	3220	2802	2737	2679	2606	2541	2469
	5.25	4214	2917	1666	1004	815	774	743	712	682	650
mH_2	$m = 2$	8121	6531	4238	2773	2226	2136	2043	1952	1882	1802
	$m = 5$	6831	4858	2670	1497	1134	1064	1013	959	916	866
	$m = 10$	6196	4120	2085	1075	782	739	691	653	607	570
	$m = 20$	5936	3818	1760	833	588	536	499	460	427	409
$RRI(H_2)$	$p = 0.1$	8563	7311	5316	3798	3171	3053	2964	2874	2783	2673
	$p = 0.5$	5569	4076	2476	1519	1206	1138	1093	1041	978	915
	$p = 0.9$	91	30	7	2	1	1	1	1	1	0

Table LXXX. Performance of the Lewis test with estimated mean and variance assuming log-normal distribution for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels.

		significance level							
$Case$	$Subcase$	0.05	0.1	0.15	0.16	0.17	0.18	0.19	0.2
Exp	$-$	270	102	48	46	40	39	33	25
E_k	$k = 2$	2781	1631	1109	1030	960	910	845	788
	$k = 4$	6494	4954	3993	3858	3709	3545	3407	3296
	$k = 6$	7975	6722	5794	5636	5463	5314	5193	5058
H_2	$c^2 = 1.25$	796	376	218	197	179	165	149	129
	$c^2 = 1.5$	1755	988	642	598	559	521	489	456
	$c^2 = 2$	3254	2170	1552	1467	1387	1309	1242	1167
	$c^2 = 4$	5090	3790	2953	2823	2699	2587	2481	2360
	$c^2 = 10$	3903	2451	1632	1503	1401	1285	1196	1100
Z	$-$	1301	772	526	483	460	430	387	361
LN	$(1, 0.25)$	9922	9741	9503	9454	9406	9358	9309	9254
	$(1, 1)$	9916	9724	9520	9477	9424	9371	9309	9249
	$(1, 4)$	9923	9779	9572	9530	9481	9436	9376	9326
	$(1, 10)$	9913	9743	9531	9484	9429	9377	9316	9255
RRI	$p = 0.1$	293	128	66	61	54	46	41	31
	$p = 0.5$	401	228	138	123	114	106	99	89
	$p = 0.9$	9	3	2	2	2	1	1	1
$EARMA$	0.25	251	95	45	41	36	34	30	27
	0.5	251	90	39	33	27	27	27	23
	1	281	122	69	61	56	48	40	38
	3	2511	1834	1430	1369	1313	1260	1213	1151
	5.25	617	346	235	223	213	201	183	169
mH_2	$m = 2$	2382	1468	1015	950	900	850	807	752
	$m = 5$	852	430	250	228	210	198	177	166
	$m = 10$	478	207	124	114	104	96	87	74
	$m = 20$	311	118	68	63	58	55	47	40
$RRI(H_2)$	$p = 0.1$	4744	3519	2782	2644	2538	2423	2330	2235
	$p = 0.5$	2935	2032	1494	1408	1329	1258	1193	1130
	$p = 0.9$	31	13	4	4	3	2	0	0

Table LXXXI. Maximum Likelihood estimates of lognormal distribution parameters for the sample size $n = 2000$. Their average values and 95% confidence levels based on $10,000$ replications are shown.

$Case$	$Subcase$	$E[\hat{\mu}]$	$E[\hat{\sigma}]$	$E[\hat{v}]$	$E[\hat{c^2}]$
Exp	$-$	-0.577 ± 0.001	1.282 ± 0.001	1.279 ± 0.001	4.195 ± 0.008
E_k	$k = 2$	-0.271 ± 0.000	0.803 ± 0.000	1.054 ± 0.000	0.907 ± 0.001
	$k = 4$	-0.130 ± 0.000	0.533 ± 0.000	1.012 ± 0.000	0.328 ± 0.000
	$k = 6$	-0.086 ± 0.000	0.426 ± 0.000	1.005 ± 0.000	0.199 ± 0.000
H_2	$c^2 = 1.25$	-0.634 ± 0.001	1.323 ± 0.001	1.274 ± 0.001	4.781 ± 0.009
	$c^2 = 1.5$	-0.681 ± 0.001	1.353 ± 0.001	1.264 ± 0.001	5.255 ± 0.010
	$c^2 = 2$	-0.755 ± 0.001	1.390 ± 0.001	1.237 ± 0.001	5.933 ± 0.011
	$c^2 = 4$	-0.918 ± 0.001	1.438 ± 0.001	1.124 ± 0.001	6.945 ± 0.014
	$c^2 = 10$	-1.079 ± 0.001	1.432 ± 0.001	0.950 ± 0.001	6.821 ± 0.015
Z	$-$	-0.362 ± 0.000	0.948 ± 0.000	1.091 ± 0.000	1.459 ± 0.002
LN	$(1, 0.25)$	-0.112 ± 0.000	0.472 ± 0.000	1.000 ± 0.000	0.250 ± 0.000
	$(1, 1)$	-0.347 ± 0.000	0.832 ± 0.000	1.000 ± 0.000	1.000 ± 0.001
	$(1, 4)$	-0.804 ± 0.001	1.268 ± 0.000	1.001 ± 0.001	4.001 ± 0.005
	$(1, 10)$	-1.199 ± 0.001	1.548 ± 0.000	1.001 ± 0.001	10.023 ± 0.017
RRI	$p = 0.1$	-0.577 ± 0.001	1.282 ± 0.001	1.278 ± 0.001	4.195 ± 0.009
	$p = 0.5$	-0.577 ± 0.001	1.281 ± 0.001	1.280 ± 0.001	4.223 ± 0.014
	$p = 0.9$	-0.578 ± 0.002	1.270 ± 0.002	1.280 ± 0.004	4.420 ± 0.049
$EARMA$	0.25	-0.577 ± 0.001	1.281 ± 0.001	1.278 ± 0.001	4.182 ± 0.008
	0.5	-0.577 ± 0.001	1.282 ± 0.001	1.278 ± 0.001	4.188 ± 0.008
	1	-0.577 ± 0.001	1.282 ± 0.001	1.278 ± 0.001	4.190 ± 0.008
	3	-0.578 ± 0.002	1.276 ± 0.002	1.277 ± 0.002	4.305 ± 0.030
	5.25	-0.577 ± 0.001	1.280 ± 0.001	1.280 ± 0.002	4.182 ± 0.010
mH_2	$m = 2$	-0.748 ± 0.001	1.373 ± 0.001	1.216 ± 0.001	5.616 ± 0.011
	$m = 5$	-0.641 ± 0.001	1.324 ± 0.001	1.267 ± 0.001	4.793 ± 0.009
	$m = 10$	-0.608 ± 0.001	1.304 ± 0.001	1.276 ± 0.001	4.495 ± 0.008
	$m = 20$	-0.593 ± 0.001	1.293 ± 0.001	1.277 ± 0.001	4.338 ± 0.008
$RRI(H_2)$	$p = 0.1$	-0.918 ± 0.001	1.438 ± 0.001	1.126 ± 0.001	6.960 ± 0.015
	$p = 0.5$	-0.919 ± 0.001	1.437 ± 0.001	1.126 ± 0.002	7.000 ± 0.025
	$p = 0.9$	-0.918 ± 0.003	1.428 ± 0.003	1.141 ± 0.005	7.548 ± 0.110

Table LXXXII. Performance of alternative KS tests of i.i.d. lognormal variables with estimated mean and variance for the sample size $n = 2000$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals.

		Standard		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	28	0.00 ± 0.0001	9968	0.73 ± 0.0049	0	0.00 ± 0.0000
E_k	$k = 2$	0	0.00 ± 0.0000	3214	0.08 ± 0.0027	9907	0.68 ± 0.0052	0	0.00 ± 0.0000
	$k = 4$	307	0.01 ± 0.0003	7743	0.30 ± 0.0055	9838	0.62 ± 0.0054	0	0.00 ± 0.0000
	$k = 6$	2223	0.04 ± 0.0010	8744	0.40 ± 0.0058	9805	0.60 ± 0.0055	3	0.00 ± 0.0000
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	510	0.01 ± 0.0007	9955	0.71 ± 0.0051	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	1857	0.04 ± 0.0018	9922	0.68 ± 0.0052	0	0.00 ± 0.0000
	$c^2 = 2$	1	0.00 ± 0.0000	4445	0.12 ± 0.0036	9870	0.64 ± 0.0054	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	4774	0.14 ± 0.0040	9693	0.57 ± 0.0056	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	267	0.01 ± 0.0005	9422	0.49 ± 0.0057	0	0.00 ± 0.0000
Z	$-$	0	0.00 ± 0.0000	675	0.01 ± 0.0010	9889	0.66 ± 0.0054	0	0.00 ± 0.0000
LN	$(1, 0.25)$	9999	0.79 ± 0.0038	9496	0.50 ± 0.0057	9521	0.50 ± 0.0057	9920	0.64 ± 0.0051
	$(1, 1)$	9999	0.78 ± 0.0038	9477	0.50 ± 0.0057	9512	0.50 ± 0.0056	9931	0.63 ± 0.0051
	$(1, 4)$	9999	0.78 ± 0.0039	9513	0.50 ± 0.0056	9517	0.50 ± 0.0056	9906	0.63 ± 0.0051
	$(1, 10)$	9999	0.78 ± 0.0039	9494	0.50 ± 0.0057	9483	0.50 ± 0.0057	9905	0.64 ± 0.0051
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	9892	0.66 ± 0.0053	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	7717	0.27 ± 0.0048	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	203	0.00 ± 0.0004	0	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	22	0.00 ± 0.0001	9797	0.60 ± 0.0056	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	36	0.00 ± 0.0002	9351	0.47 ± 0.0057	0	0.00 ± 0.0000
	1	0	0.00 ± 0.0000	21	0.00 ± 0.0001	8295	0.32 ± 0.0052	0	0.00 ± 0.0000
	3	0	0.00 ± 0.0000	575	0.01 ± 0.0011	2272	0.04 ± 0.0016	0	0.00 ± 0.0000
	5.25	0	0.00 ± 0.0000	95	0.00 ± 0.0003	1322	0.02 ± 0.0011	0	0.00 ± 0.0000
mH_2	$m = 2$	0	0.00 ± 0.0000	3325	0.08 ± 0.0030	8834	0.39 ± 0.0055	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	625	0.01 ± 0.0009	7830	0.28 ± 0.0050	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	160	0.00 ± 0.0004	7522	0.27 ± 0.0050	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	62	0.00 ± 0.0002	7694	0.29 ± 0.0053	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	1	0.00 ± 0.0000	0	0.00 ± 0.0000	9445	0.48 ± 0.0056	0	0.00 ± 0.0000
	$p = 0.5$	7	0.00 ± 0.0001	0	0.00 ± 0.0000	5555	0.15 ± 0.0036	0	0.00 ± 0.0000
	$p = 0.9$	2	0.00 ± 0.0000	0	0.00 ± 0.0000	43	0.00 ± 0.0002	0	0.00 ± 0.0000

Table LXXXIII. Performance of the Standard test with estimated mean and variance assuming lognormal distribution for the sample size $n = 2000$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels.

		significance level									
$Case$	$Subcase$	0.05	0.1	0.2	0.3	0.35	0.36	0.37	0.38	0.39	0.4
Exp	$-$	0	0	0	0	0	0	0	0	0	0
E_k	$k = 2$	0	0	0	0	0	0	0	0	0	0
	$k = 4$	307	60	6	0	0	0	0	0	0	0
	$k = 6$	2223	856	202	55	32	27	25	24	23	22
H_2	$c^2 = 1.25$	0	0	0	0	0	0	0	0	0	0
	$c^2 = 1.5$	0	0	0	0	0	0	0	0	0	0
	$c^2 = 2$	1	0	0	0	0	0	0	0	0	0
	$c^2 = 4$	0	0	0	0	0	0	0	0	0	0
	$c^2 = 10$	0	0	0	0	0	0	0	0	0	0
Z	$-$	0	0	0	0	0	0	0	0	0	0
LN	$(1, 0.25)$	9999	9992	9921	9777	9637	9598	9561	9522	9483	9440
	$(1, 1)$	9999	9990	9920	9734	9600	9565	9538	9506	9459	9418
	$(1, 4)$	9999	9985	9895	9704	9559	9518	9489	9455	9410	9376
	$(1, 10)$	9999	9986	9919	9734	9574	9541	9513	9482	9451	9419
RRI	$p = 0.1$	0	0	0	0	0	0	0	0	0	0
	$p = 0.5$	0	0	0	0	0	0	0	0	0	0
	$p = 0.9$	0	0	0	0	0	0	0	0	0	0
$EARMA$	0.25	0	0	0	0	0	0	0	0	0	0
	0.5	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0
	5.25	0	0	0	0	0	0	0	0	0	0
mH_2	$m = 2$	0	0	0	0	0	0	0	0	0	0
	$m = 5$	0	0	0	0	0	0	0	0	0	0
	$m = 10$	0	0	0	0	0	0	0	0	0	0
	$m = 20$	0	0	0	0	0	0	0	0	0	0
$RRI(H_2)$	$p = 0.1$	1	0	0	0	0	0	0	0	0	0
	$p = 0.5$	7	3	0	0	0	0	0	0	0	0
	$p = 0.9$	2	0	0	0	0	0	0	0	0	0

Table LXXXIV. Performance of the Lewis test with estimated mean and variance assuming lognormal distribution for the sample size $n = 2000$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels.

		significance level							
$Case$	$Subcase$	0.05	0.1	0.15	0.16	0.17	0.18	0.19	0.2
Exp	$-$	0	0	0	0	0	0	0	0
E_k	$k = 2$	0	0	0	0	0	0	0	0
	$k = 4$	0	0	0	0	0	0	0	0
	$k = 6$	3	0	0	0	0	0	0	0
H_2	$c^2 = 1.25$	0	0	0	0	0	0	0	0
	$c^2 = 1.5$	0	0	0	0	0	0	0	0
	$c^2 = 2$	0	0	0	0	0	0	0	0
	$c^2 = 4$	0	0	0	0	0	0	0	0
	$c^2 = 10$	0	0	0	0	0	0	0	0
Z	$-$	0	0	0	0	0	0	0	0
LN	$(1, 0.25)$	9920	9758	9560	9500	9445	9387	9324	9267
	$(1, 1)$	9931	9761	9543	9494	9431	9384	9312	9246
	$(1, 4)$	9906	9723	9503	9452	9402	9338	9282	9237
	$(1, 10)$	9905	9747	9542	9488	9450	9396	9345	9277
RRI	$p = 0.1$	0	0	0	0	0	0	0	0
	$p = 0.5$	0	0	0	0	0	0	0	0
	$p = 0.9$	0	0	0	0	0	0	0	0
$EARMA$	0.25	0	0	0	0	0	0	0	0
	0.5	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	5.25	0	0	0	0	0	0	0	0
mH_2	$m = 2$	0	0	0	0	0	0	0	0
	$m = 5$	0	0	0	0	0	0	0	0
	$m = 10$	0	0	0	0	0	0	0	0
	$m = 20$	0	0	0	0	0	0	0	0
$RRI(H_2)$	$p = 0.1$	0	0	0	0	0	0	0	0
	$p = 0.5$	0	0	0	0	0	0	0	0
	$p = 0.9$	0	0	0	0	0	0	0	0

Table LXXXV. Maximum Likelihood estimates of normal distribution parameters for the sample size $n = 50$. Their average values and 95% confidence levels based on $10,000$ replications are shown. The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.

Case	*Subcase*	$E[\hat{\mu}]$	$E[\hat{\sigma}]$
Exp	–	-0.001 ± 0.003	0.971 ± 0.004
E_k	$k = 2$	0.001 ± 0.002	0.694 ± 0.002
	$k = 4$	0.000 ± 0.001	0.491 ± 0.001
	$k = 6$	0.000 ± 0.001	0.401 ± 0.001
H_2	$c^2 = 1.25$	0.000 ± 0.003	1.076 ± 0.005
	$c^2 = 1.5$	-0.003 ± 0.003	1.167 ± 0.006
	$c^2 = 2$	-0.002 ± 0.004	1.325 ± 0.009
	$c^2 = 4$	0.003 ± 0.006	1.797 ± 0.017
	$c^2 = 10$	-0.004 ± 0.009	2.475 ± 0.037
Z	–	0.001 ± 0.003	0.887 ± 0.009
LN	$(1, 0.25)$	0.000 ± 0.001	0.487 ± 0.002
	$(1, 1)$	0.002 ± 0.003	0.942 ± 0.006
	$(1, 4)$	0.001 ± 0.006	1.655 ± 0.022
	$(1, 10)$	0.001 ± 0.008	2.200 ± 0.039
RRI	$p = 0.1$	0.000 ± 0.003	0.964 ± 0.004
	$p = 0.5$	0.001 ± 0.005	0.931 ± 0.006
	$p = 0.9$	0.010 ± 0.011	0.717 ± 0.009
$EARMA$	0.25	0.000 ± 0.003	0.962 ± 0.004
	0.5	0.000 ± 0.004	0.953 ± 0.005
	1	0.002 ± 0.005	0.933 ± 0.005
	3	0.002 ± 0.007	0.879 ± 0.006
	5.25	0.011 ± 0.009	0.821 ± 0.008
mH_2	$m = 2$	-0.003 ± 0.005	1.374 ± 0.014
	$m = 5$	-0.003 ± 0.005	1.066 ± 0.008
	$m = 10$	-0.001 ± 0.005	0.999 ± 0.006
	$m = 20$	-0.001 ± 0.004	0.979 ± 0.005
$RRI(H_2)$	$p = 0.1$	0.003 ± 0.006	1.764 ± 0.018
	$p = 0.5$	-0.001 ± 0.010	1.585 ± 0.022
	$p = 0.9$	-0.003 ± 0.022	0.997 ± 0.025
$N(0, 1)$	–	0.000 ± 0.003	0.985 ± 0.002
$E_k - 1$	$k = 2$	0.003 ± 0.003	0.984 ± 0.002
$+\sqrt{1 - 1/k}$	$k = 4$	0.000 ± 0.003	0.985 ± 0.002
$\times N(0, 1)$	$k = 6$	-0.001 ± 0.003	0.984 ± 0.002

F.2. Tests for Normal Distribution

We now consider testing for normal distribution. If X is a normal random variable, the Maximum Likelihood (ML) estimators of its parameters are defined as $\hat{\mu} = \sum_{i=1}^{n} X_i/n$, $\hat{\sigma^2} = \sum_{i=1}^{n}(X_i - \hat{\mu})^2/n$. The ML estimates of normal distribution for $n = 50$ are given in Table LXXXV and the test results are provided in Tables LXXXVI - LXXXVIII. We find that the nominal significance level of the standard and Lewis test again need to be increased to 0.36 and 0.18, respectively. Similar results for $n = 200$ are provided in Tables LXXXIX - XCII.

Table LXXXVI. Performance of alternative KS tests of i.i.d. normal variables with estimated mean and variance for the sample size $n = 50$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals. The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.

		Standard		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	6194	0.11 ± 0.0024	2511	0.07 ± 0.0028	6425	0.19 ± 0.0041	981	0.02 ± 0.0008
E_k	$k = 2$	9155	0.30 ± 0.0043	7517	0.31 ± 0.0057	7417	0.24 ± 0.0046	3954	0.08 ± 0.0023
	$k = 4$	9837	0.48 ± 0.0050	9185	0.46 ± 0.0058	8168	0.31 ± 0.0051	6967	0.19 ± 0.0039
	$k = 6$	9937	0.56 ± 0.0050	9400	0.49 ± 0.0057	8468	0.34 ± 0.0052	8036	0.26 ± 0.0047
H_2	$c^2 = 1.25$	4120	0.07 ± 0.0017	1293	0.03 ± 0.0018	5490	0.15 ± 0.0037	379	0.01 ± 0.0005
	$c^2 = 1.5$	2713	0.05 ± 0.0014	774	0.02 ± 0.0014	4753	0.12 ± 0.0034	204	0.00 ± 0.0003
	$c^2 = 2$	1285	0.02 ± 0.0009	339	0.01 ± 0.0008	3778	0.09 ± 0.0028	65	0.00 ± 0.0002
	$c^2 = 4$	513	0.01 ± 0.0007	167	0.00 ± 0.0006	2197	0.04 ± 0.0019	41	0.00 ± 0.0002
	$c^2 = 10$	1132	0.02 ± 0.0012	424	0.01 ± 0.0012	1659	0.04 ± 0.0022	149	0.00 ± 0.0003
Z	$-$	7368	0.22 ± 0.0042	5699	0.22 ± 0.0053	5795	0.19 ± 0.0044	2630	0.05 ± 0.0019
LN	$(1, 0.25)$	9117	0.32 ± 0.0046	8109	0.36 ± 0.0059	7089	0.24 ± 0.0046	3918	0.08 ± 0.0026
	$(1, 1)$	4140	0.08 ± 0.0021	2154	0.06 ± 0.0029	5009	0.13 ± 0.0036	388	0.01 ± 0.0006
	$(1, 4)$	388	0.01 ± 0.0004	75	0.00 ± 0.0004	3110	0.07 ± 0.0025	9	0.00 ± 0.0001
	$(1, 10)$	51	0.00 ± 0.0002	5	0.00 ± 0.0001	2299	0.05 ± 0.0020	1	0.00 ± 0.0000
RRI	$p = 0.1$	5850	0.11 ± 0.0024	1161	0.03 ± 0.0015	5785	0.16 ± 0.0039	1016	0.02 ± 0.0009
	$p = 0.5$	3580	0.07 ± 0.0021	0	0.00 ± 0.0000	2962	0.06 ± 0.0023	973	0.02 ± 0.0010
	$p = 0.9$	222	0.00 ± 0.0004	0	0.00 ± 0.0000	742	0.03 ± 0.0023	74	0.00 ± 0.0002
$EARMA$	0.25	6496	0.12 ± 0.0024	2663	0.07 ± 0.0030	5272	0.14 ± 0.0037	1108	0.02 ± 0.0008
	0.5	6778	0.13 ± 0.0026	2924	0.08 ± 0.0032	4411	0.11 ± 0.0032	1261	0.02 ± 0.0009
	1	7089	0.15 ± 0.0030	3456	0.10 ± 0.0036	3819	0.09 ± 0.0031	1829	0.03 ± 0.0012
	3	7228	0.19 ± 0.0039	4500	0.16 ± 0.0048	1244	0.02 ± 0.0013	2577	0.05 ± 0.0019
	5.25	8008	0.30 ± 0.0052	5718	0.22 ± 0.0055	1771	0.04 ± 0.0020	4553	0.13 ± 0.0037
mH_2	$m = 2$	2149	0.04 ± 0.0013	667	0.02 ± 0.0013	2826	0.07 ± 0.0026	177	0.00 ± 0.0003
	$m = 5$	4795	0.08 ± 0.0020	1680	0.04 ± 0.0022	4277	0.11 ± 0.0033	555	0.01 ± 0.0006
	$m = 10$	5736	0.10 ± 0.0022	2181	0.06 ± 0.0026	5287	0.15 ± 0.0038	810	0.02 ± 0.0007
	$m = 20$	6031	0.11 ± 0.0023	2419	0.06 ± 0.0027	6046	0.17 ± 0.0040	892	0.02 ± 0.0007
$RRI(H_2)$	$p = 0.1$	621	0.01 ± 0.0008	77	0.00 ± 0.0003	1958	0.04 ± 0.0019	65	0.00 ± 0.0002
	$p = 0.5$	886	0.02 ± 0.0011	0	0.00 ± 0.0000	1265	0.03 ± 0.0014	210	0.00 ± 0.0004
	$p = 0.9$	135	0.00 ± 0.0003	0	0.00 ± 0.0000	575	0.02 ± 0.0020	47	0.00 ± 0.0001
$N(0, 1)$	$-$	10000	0.78 ± 0.0038	9477	0.50 ± 0.0057	9516	0.48 ± 0.0055	9903	0.62 ± 0.0051
$E_k - 1 + \sqrt{1 - 1/k}N(0, 1)$	$k = 2$	9980	0.70 ± 0.0047	9489	0.50 ± 0.0057	8826	0.38 ± 0.0055	9213	0.44 ± 0.0058
	$k = 4$	10000	0.78 ± 0.0039	9504	0.50 ± 0.0057	9348	0.45 ± 0.0056	9879	0.60 ± 0.0052
	$k = 6$	9999	0.78 ± 0.0038	9465	0.50 ± 0.0056	9439	0.47 ± 0.0056	9898	0.62 ± 0.0051

Table LXXXVII. Performance of the Standard test with estimated mean and variance assuming normal distribution for the sample size $n = 50$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels. (The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.)

		significance level									
$Case$	$Subcase$	0.05	0.1	0.2	0.3	0.35	0.36	0.37	0.38	0.39	0.4
Exp	–	6194	3949	1783	804	539	498	466	431	400	368
E_k	$k = 2$	9155	7985	5833	4160	3465	3338	3224	3083	2974	2880
	$k = 4$	9837	9414	8323	7075	6429	6321	6202	6063	5941	5798
	$k = 6$	9937	9724	9011	8079	7541	7425	7302	7199	7103	6994
H_2	$c^2 = 1.25$	4120	2222	780	297	186	168	153	141	131	121
	$c^2 = 1.5$	2713	1293	414	143	91	77	66	58	51	45
	$c^2 = 2$	1285	562	156	47	31	28	27	21	19	18
	$c^2 = 4$	513	240	68	34	20	17	16	14	12	10
	$c^2 = 10$	1132	674	261	124	87	77	74	68	64	60
Z	–	7368	6133	4235	2843	2343	2241	2150	2053	1981	1903
LN	$(1, 0.25)$	9117	8024	6084	4433	3755	3629	3507	3409	3284	3177
	$(1, 1)$	4140	2448	1014	483	335	307	288	268	246	221
	$(1, 4)$	388	110	22	5	3	3	3	3	2	0
	$(1, 10)$	51	13	2	0	0	0	0	0	0	0
RRI	$p = 0.1$	5850	3743	1670	811	570	536	505	464	421	388
	$p = 0.5$	3580	2144	987	472	342	322	295	276	262	240
	$p = 0.9$	222	81	14	5	3	3	3	2	2	2
$EARMA$	0.25	6496	4287	1954	893	616	561	519	482	445	414
	0.5	6778	4648	2196	1094	735	684	646	604	564	522
	1	7089	5112	2769	1498	1106	1048	982	924	861	814
	3	7228	5596	3519	2332	1867	1789	1727	1668	1603	1533
	5.25	8008	6911	5235	4010	3529	3440	3367	3282	3209	3127
mH_2	$m = 2$	2149	1112	360	146	98	89	78	68	63	57
	$m = 5$	4795	2797	1118	451	295	277	248	222	197	185
	$m = 10$	5736	3520	1470	632	429	403	368	343	314	293
	$m = 20$	6031	3841	1638	737	498	455	419	380	354	323
$RRI(H_2)$	$p = 0.1$	621	286	104	54	35	31	28	26	20	19
	$p = 0.5$	886	503	211	90	65	61	56	54	53	49
	$p = 0.9$	135	40	8	2	1	1	1	1	1	1
$N(0, 1)$	–	10000	9986	9903	9729	9583	9554	9520	9489	9456	9422
$E_k - 1$	$k = 2$	9980	9917	9641	9198	8880	8815	8746	8670	8606	8528
$+\sqrt{1 - 1/k}$	$k = 4$	10000	9991	9920	9745	9596	9558	9514	9469	9441	9408
$\times N(0, 1)$	$k = 6$	9999	9985	9914	9748	9620	9596	9561	9526	9493	9453

Table LXXXVIII. Performance of the Lewis test with estimated mean and variance assuming normal distribution for the sample size $n = 50$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels. (The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.)

		significance level							
$Case$	$Subcase$	0.05	0.1	0.15	0.16	0.17	0.18	0.19	0.2
Exp	$-$	981	395	189	170	147	130	117	104
E_k	$k=2$	3954	2384	1592	1465	1354	1253	1174	1080
	$k=4$	6967	5353	4189	4001	3831	3640	3484	3340
	$k=6$	8036	6671	5572	5392	5221	5036	4883	4727
H_2	$c^2=1.25$	379	131	56	52	48	36	31	26
	$c^2=1.5$	204	67	25	22	18	17	13	10
	$c^2=2$	65	17	9	7	7	7	5	5
	$c^2=4$	41	14	10	7	7	5	4	2
	$c^2=10$	149	56	28	24	19	15	12	11
Z	$-$	2630	1550	993	925	843	783	739	686
LN	$(1,0.25)$	3918	2484	1731	1618	1522	1433	1338	1262
	$(1,1)$	388	159	92	80	72	64	59	50
	$(1,4)$	9	1	0	0	0	0	0	0
	$(1,10)$	1	0	0	0	0	0	0	0
RRI	$p=0.1$	1016	427	234	200	184	163	152	142
	$p=0.5$	973	486	289	260	244	227	210	191
	$p=0.9$	74	18	5	5	3	2	2	2
$EARMA$	0.25	1108	446	204	180	159	137	115	106
	0.5	1261	534	280	251	222	193	173	156
	1	1829	887	510	440	388	350	316	283
	3	2577	1542	981	896	835	781	733	694
	5.25	4553	3383	2645	2534	2448	2360	2257	2158
mH_2	$m=2$	177	57	25	19	17	15	14	12
	$m=5$	555	202	81	72	57	48	40	35
	$m=10$	810	326	134	117	101	91	80	73
	$m=20$	892	330	160	142	126	107	93	78
$RRI(H_2)$	$p=0.1$	65	24	10	10	9	7	6	5
	$p=0.5$	210	96	54	51	48	42	38	32
	$p=0.9$	47	11	4	4	3	3	3	2
$N(0,1)$	$-$	9903	9718	9486	9437	9374	9326	9265	9215
E_k-1	$k=2$	9213	8486	7858	7729	7588	7461	7327	7209
$+\sqrt{1-1/k}$	$k=4$	9879	9658	9383	9314	9243	9184	9131	9070
$\times N(0,1)$	$k=6$	9898	9723	9476	9415	9366	9312	9251	9188

Table LXXXIX. Maximum Likelihood estimates of normal distribution parameters for the sample size $n = 200$. Their average values and 95% confidence levels based on $10,000$ replications are shown. The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.

$Case$	$Subcase$	$E[\hat{\mu}]$	$E[\hat{\sigma}]$
Exp	$-$	0.000 ± 0.001	0.993 ± 0.002
E_k	$k = 2$	0.000 ± 0.001	0.705 ± 0.001
	$k = 4$	0.000 ± 0.001	0.498 ± 0.001
	$k = 6$	0.000 ± 0.001	0.407 ± 0.000
H_2	$c^2 = 1.25$	0.001 ± 0.002	1.108 ± 0.003
	$c^2 = 1.5$	-0.001 ± 0.002	1.208 ± 0.003
	$c^2 = 2$	0.000 ± 0.002	1.389 ± 0.005
	$c^2 = 4$	0.000 ± 0.003	1.934 ± 0.009
	$c^2 = 10$	0.001 ± 0.004	2.950 ± 0.022
Z	$-$	0.001 ± 0.001	0.950 ± 0.006
LN	$(1, 0.25)$	0.000 ± 0.001	0.496 ± 0.001
	$(1, 1)$	-0.001 ± 0.001	0.978 ± 0.004
	$(1, 4)$	0.000 ± 0.003	1.830 ± 0.016
	$(1, 10)$	-0.002 ± 0.004	2.575 ± 0.031
RRI	$p = 0.1$	0.000 ± 0.002	0.991 ± 0.002
	$p = 0.5$	0.001 ± 0.002	0.982 ± 0.003
	$p = 0.9$	0.000 ± 0.006	0.899 ± 0.006
$EARMA$	0.25	0.002 ± 0.002	0.993 ± 0.002
	0.5	0.000 ± 0.002	0.988 ± 0.002
	1	0.001 ± 0.002	0.980 ± 0.003
	3	0.002 ± 0.004	0.968 ± 0.003
	5.25	0.003 ± 0.005	0.940 ± 0.005
mH_2	$m = 2$	0.001 ± 0.003	1.520 ± 0.009
	$m = 5$	0.000 ± 0.003	1.143 ± 0.005
	$m = 10$	0.001 ± 0.003	1.048 ± 0.004
	$m = 20$	-0.001 ± 0.003	1.012 ± 0.003
$RRI(H_2)$	$p = 0.1$	0.003 ± 0.003	1.932 ± 0.010
	$p = 0.5$	-0.001 ± 0.005	1.843 ± 0.014
	$p = 0.9$	0.001 ± 0.012	1.480 ± 0.024
$N(0, 1)$	$-$	0.001 ± 0.001	0.996 ± 0.001
$E_k - 1$	$k = 2$	0.000 ± 0.001	0.997 ± 0.001
$+\sqrt{1 - 1/k}$	$k = 4$	-0.001 ± 0.001	0.996 ± 0.001
$\times N(0, 1)$	$k = 6$	0.000 ± 0.001	0.995 ± 0.001

Table XC. Performance of alternative KS tests of i.i.d. normal variables with estimated mean and variance for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications and the average p-values (denoted by $E[p\text{-value}]$) with associated 95% confidence intervals. The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.

		Standard		Durbin		CU		Lewis	
$Case$	$Subcase$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$	$\#P$	$E[p\text{-value}]$
Exp	$-$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	5407	0.14 ± 0.0036	0	0.00 ± 0.0000
E_k	$k = 2$	1200	0.02 ± 0.0007	1410	0.03 ± 0.0014	6817	0.21 ± 0.0044	3	0.00 ± 0.0001
	$k = 4$	6405	0.12 ± 0.0024	7026	0.25 ± 0.0052	7849	0.28 ± 0.0049	501	0.01 ± 0.0005
	$k = 6$	8415	0.22 ± 0.0037	8509	0.38 ± 0.0058	8217	0.31 ± 0.0051	1788	0.03 ± 0.0014
H_2	$c^2 = 1.25$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4035	0.10 ± 0.0029	0	0.00 ± 0.0000
	$c^2 = 1.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3119	0.07 ± 0.0023	0	0.00 ± 0.0000
	$c^2 = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2125	0.04 ± 0.0017	0	0.00 ± 0.0000
	$c^2 = 4$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	655	0.01 ± 0.0008	0	0.00 ± 0.0000
	$c^2 = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	102	0.00 ± 0.0003	0	0.00 ± 0.0000
Z	$-$	298	0.01 ± 0.0003	282	0.01 ± 0.0005	3023	0.08 ± 0.0031	1	0.00 ± 0.0000
LN	$(1, 0.25)$	1604	0.03 ± 0.0009	3153	0.08 ± 0.0030	6280	0.19 ± 0.0042	9	0.00 ± 0.0001
	$(1, 1)$	0	0.00 ± 0.0000	1	0.00 ± 0.0000	2927	0.06 ± 0.0024	0	0.00 ± 0.0000
	$(1, 4)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1042	0.02 ± 0.0012	0	0.00 ± 0.0000
	$(1, 10)$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	505	0.01 ± 0.0007	0	0.00 ± 0.0000
RRI	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4567	0.11 ± 0.0032	0	0.00 ± 0.0000
	$p = 0.5$	13	0.00 ± 0.0001	0	0.00 ± 0.0000	1582	0.03 ± 0.0014	0	0.00 ± 0.0000
	$p = 0.9$	2	0.00 ± 0.0000	0	0.00 ± 0.0000	28	0.00 ± 0.0002	1	0.00 ± 0.0000
$EARMA$	0.25	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3747	0.09 ± 0.0027	0	0.00 ± 0.0000
	0.5	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2660	0.06 ± 0.0021	0	0.00 ± 0.0000
	1	1	0.00 ± 0.0000	1	0.00 ± 0.0000	1613	0.03 ± 0.0015	0	0.00 ± 0.0000
	3	19	0.00 ± 0.0001	44	0.00 ± 0.0002	295	0.01 ± 0.0005	0	0.00 ± 0.0000
	5.25	265	0.01 ± 0.0004	78	0.00 ± 0.0002	155	0.00 ± 0.0004	29	0.00 ± 0.0001
mH_2	$m = 2$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	628	0.01 ± 0.0008	0	0.00 ± 0.0000
	$m = 5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	1456	0.03 ± 0.0016	0	0.00 ± 0.0000
	$m = 10$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	2390	0.05 ± 0.0022	0	0.00 ± 0.0000
	$m = 20$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	3478	0.08 ± 0.0029	0	0.00 ± 0.0000
$RRI(H_2)$	$p = 0.1$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	499	0.01 ± 0.0006	0	0.00 ± 0.0000
	$p = 0.5$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	117	0.00 ± 0.0003	0	0.00 ± 0.0000
	$p = 0.9$	0	0.00 ± 0.0000	0	0.00 ± 0.0000	4	0.00 ± 0.0000	0	0.00 ± 0.0000
$N(0, 1)$	$-$	9995	0.78 ± 0.0039	9489	0.50 ± 0.0057	9537	0.50 ± 0.0056	9913	0.63 ± 0.0051
$E_k - 1$	$k = 2$	9809	0.51 ± 0.0052	9432	0.49 ± 0.0057	8678	0.36 ± 0.0054	6643	0.20 ± 0.0045
$+\sqrt{1 - 1/k}$	$k = 4$	9991	0.76 ± 0.0041	9480	0.50 ± 0.0057	9378	0.46 ± 0.0056	9800	0.56 ± 0.0054
$\times N(0, 1)$	$k = 6$	9995	0.78 ± 0.0039	9491	0.50 ± 0.0057	9415	0.48 ± 0.0056	9893	0.62 ± 0.0052

Table XCI. Performance of the Standard test with estimated mean and variance assuming normal distribution for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels. (The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.)

		significance level									
$Case$	$Subcase$	0.05	0.1	0.2	0.3	0.35	0.36	0.37	0.38	0.39	0.4
Exp	$-$	0	0	0	0	0	0	0	0	0	0
E_k	$k=2$	1200	357	51	15	10	10	8	7	7	7
	$k=4$	6405	4273	1987	937	650	597	562	517	479	444
	$k=6$	8415	6729	4286	2635	2049	1947	1835	1751	1658	1571
H_2	$c^2=1.25$	0	0	0	0	0	0	0	0	0	0
	$c^2=1.5$	0	0	0	0	0	0	0	0	0	0
	$c^2=2$	0	0	0	0	0	0	0	0	0	0
	$c^2=4$	0	0	0	0	0	0	0	0	0	0
	$c^2=10$	0	0	0	0	0	0	0	0	0	0
Z	$-$	298	78	4	0	0	0	0	0	0	0
LN	$(1,0.25)$	1604	634	143	40	25	22	20	17	16	10
	$(1,1)$	0	0	0	0	0	0	0	0	0	0
	$(1,4)$	0	0	0	0	0	0	0	0	0	0
	$(1,10)$	0	0	0	0	0	0	0	0	0	0
RRI	$p=0.1$	0	0	0	0	0	0	0	0	0	0
	$p=0.5$	13	1	0	0	0	0	0	0	0	0
	$p=0.9$	2	1	0	0	0	0	0	0	0	0
$EARMA$	0.25	0	0	0	0	0	0	0	0	0	0
	0.5	0	0	0	0	0	0	0	0	0	0
	1	1	0	0	0	0	0	0	0	0	0
	3	19	2	0	0	0	0	0	0	0	0
	5.25	265	83	13	2	2	2	2	2	2	2
mH_2	$m=2$	0	0	0	0	0	0	0	0	0	0
	$m=5$	0	0	0	0	0	0	0	0	0	0
	$m=10$	0	0	0	0	0	0	0	0	0	0
	$m=20$	0	0	0	0	0	0	0	0	0	0
$RRI(H_2)$	$p=0.1$	0	0	0	0	0	0	0	0	0	0
	$p=0.5$	0	0	0	0	0	0	0	0	0	0
	$p=0.9$	0	0	0	0	0	0	0	0	0	0
$N(0,1)$	$-$	9995	9980	9898	9739	9599	9564	9522	9480	9437	9387
E_k-1	$k=2$	9809	9456	8455	7306	6738	6616	6488	6389	6285	6173
$+\sqrt{1-1/k}$	$k=4$	9991	9971	9869	9630	9474	9441	9396	9350	9298	9252
$\times N(0,1)$	$k=6$	9995	9984	9909	9733	9591	9559	9526	9471	9423	9383

Table XCII. Performance of the Lewis test with estimated mean and variance assuming normal distribution for the sample size $n = 200$: Number of KS tests passed (denoted by $\#P$) at significance level 0.05 out of $10,000$ replications at various significance levels. (The first nine alternative hypotheses have mean 0 by subtracting 1 from the previous mean-1 cases.)

		significance level							
$Case$	$Subcase$	0.05	0.1	0.15	0.16	0.17	0.18	0.19	0.2
Exp	$-$	0	0	0	0	0	0	0	0
E_k	$k=2$	3	1	1	1	1	1	1	1
	$k=4$	501	186	73	62	54	49	42	39
	$k=6$	1788	919	550	501	459	419	378	345
H_2	$c^2=1.25$	0	0	0	0	0	0	0	0
	$c^2=1.5$	0	0	0	0	0	0	0	0
	$c^2=2$	0	0	0	0	0	0	0	0
	$c^2=4$	0	0	0	0	0	0	0	0
	$c^2=10$	0	0	0	0	0	0	0	0
Z	$-$	1	0	0	0	0	0	0	0
LN	$(1,0.25)$	9	2	0	0	0	0	0	0
	$(1,1)$	0	0	0	0	0	0	0	0
	$(1,4)$	0	0	0	0	0	0	0	0
	$(1,10)$	0	0	0	0	0	0	0	0
RRI	$p=0.1$	0	0	0	0	0	0	0	0
	$p=0.5$	0	0	0	0	0	0	0	0
	$p=0.9$	1	0	0	0	0	0	0	0
$EARMA$	0.25	0	0	0	0	0	0	0	0
	0.5	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	5.25	29	4	3	3	2	2	2	2
mH_2	$m=2$	0	0	0	0	0	0	0	0
	$m=5$	0	0	0	0	0	0	0	0
	$m=10$	0	0	0	0	0	0	0	0
	$m=20$	0	0	0	0	0	0	0	0
$RRI(H_2)$	$p=0.1$	0	0	0	0	0	0	0	0
	$p=0.5$	0	0	0	0	0	0	0	0
	$p=0.9$	0	0	0	0	0	0	0	0
$N(0,1)$	$-$	9913	9742	9528	9477	9420	9362	9300	9247
E_k-1	$k=2$	6643	5172	4211	4048	3900	3748	3593	3453
$+\sqrt{1-1/k}$	$k=4$	9800	9482	9159	9078	8997	8896	8815	8727
$\times N(0,1)$	$k=6$	9893	9691	9431	9364	9310	9253	9197	9153

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